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TEACHING

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FOR TEACHERS

MARCH 1959

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DISCIPLINE IN SCHOOLS

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TEACHING

A QUARTERLY TECHNICAL JOURNAL FOR TEACHERS

Editor: MARGARET BENJAMIN

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EDITORIAL

WHETHER discipline among students and young people is worse today than it was twenty years ago is hardly a vital issue. What is important is that there *is* indiscipline of an unpleasant and aggressive nature in the life of the younger generation of today.

Indiscipline of the young is not only India's problem. Lawlessness and juvenile delinquency are posing a problem to urbanized societies of socially advanced countries all over the world. A glance at daily press items is enough proof of this. The United States of America dubs her indisciplined youth as 'rebels without a cause'; England has her teddy boys, while the 'half-strong' or *Halbstarke* are West Germany's problem. Sweden's 'leather jackets' or *Skinnknute* seem to be the cause of many troubles; Japan gives the name of *taiyozoku* ('children of the sun') to her reckless adolescents. Russia's 'style boys' or *Stilyage* model themselves on the English teddy boys.

We have not yet found a name for our indisciplined youths, but the same canker is growing in our society. The fact that we have this in common with other countries does not in the least mitigate the seriousness of the problem, nor account for it. We may have causes for it peculiar to our country and our social set-up which need attention and study. Unless the causes are analysed the solutions cannot be effective. We are bringing out this special issue on the subject of Discipline in the hope that the analyses offered by contributors may lead to conclusions and subsequent solutions.

No one will question the fact that, whatever is wrong with our adolescents and university students, the seeds of lawlessness are sown in the home and the school. Dr Ryburn has clinched this point in his article.

The Government of India believes that one of the ways in which indiscipline can be curbed is to tackle it on a national level by the introduction of the National Discipline Scheme. The author of this Scheme has described what is aimed at and what it is hoped to achieve. It would have been helpful if he had also given us some idea about how

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the scheme is to be implemented in schools if it is to achieve the aims it embodies.

Little information or literature is available about this Scheme, which was started four years ago, so it may prove helpful to mention some of its outstanding features.

The Publications Division of the Ministry of Information and Broadcasting issued in 1957 a pamphlet entitled *The National Discipline Scheme*, from which the following quotation is taken: 'The Government were encouraged not only to extend the Scheme to Delhi but also introduce it in Faridabad, Ulhasnagar (Bombay) and Jullundur. In spite of the small allocation of only one lakh of rupees for 1954-55, a start was made in training young people in 19 institutions comprising 24,881 students. In 1955-56, with the grant raised to Rs 2 lakhs, institutions in Ambala, Panchkula, Gurgaon, Panipat and Saurashtra were drawn in so that at the beginning of 1956-57 40,000 children were being given this training. Of these 15,000 were in Delhi, 10,000 in Punjab, 2,000 in PEPSU, 2,000 in Saurashtra, 4,000 in Bombay and 7,000 in West Bengal. By the end of 1956 about 69,000 children were getting the benefits of the National Discipline Scheme. Thus, even with the limited financial resources available, the scheme has been given a great push and has now come to stay. . . . Subsequently the Planning Commission, after examining the expansion proposals, made an allocation of fifty lakhs for the Second Plan period.'

A subsequent Press Information Bureau notice issued in October 1958 tells us that the Government have decided to set up three regional offices at Calcutta, Poona, and Ambala for the effective implementation of this Scheme. It goes on to say: 'At present the Scheme is operating in 195 schools in the states of Punjab, U.P., Bombay, Madhya Pradesh, Jammu and Kashmir, West Bengal and Delhi. The total number of students under the Scheme at present is about 1,00,000. It is expected that by the end of the Second Plan period the Scheme will embrace 785 institutions all over India and train 5,76,000 students.'

These figures sound impressive but mean little. In 1955-6 there were 32,568 secondary schools with 8,527,000 pupils in India, so that numerically the Scheme is scarcely significant. What matter, however, are the nature and results of the training actually given, and on these subjects our contributor and the Government notifications say little. The objectives of the Scheme are laudable and one can only wish it success, but before giving it our support we need to know much more about it.

The N.C.C. (National Cadet Corps) was introduced some years ago as a national scheme with more or less the same objectives. This had to be abandoned because the Government could not meet its financial commitments. It was replaced by the A.C.C. (Auxiliary Cadet Corps). The A.C.C. is suffering from the same handicaps. We are told that some of the cadets have not received uniforms for the last two years! The response to the A.C.C. scheme has been inadequate for reasons

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which we cannot go into here. Will the National Discipline Scheme be an overlapping and a duplication of the A.C.C.? Why start new schemes which involve enormous expenditure instead of perfecting existing ones? Are not scouting and some of the other extra-curricular activities in schools also aimed at doing the same thing? How much efficiency can one expect from instructors who will get only one month's intensive training? How will the work of these National Discipline Scheme instructors be co-ordinated with the work of the regular P.T. masters of a school? The regular P.T. instructors of schools are probably men or women who have spent at least one full academic year specializing in their subject. Will not the instructors of the National Discipline Scheme be doing more or less the same thing as the regular P.T. instructors on the staff? How is the work of the National Discipline instructors to be fitted into an already overcrowded time-table? Will half an hour a day of physical jerks and perhaps another half-hour of debate and discussion on 'spiritual and moral values' make our students more disciplined when the society around them is indisciplined? Before any more money is wasted on nebulous schemes it would be well worth while to survey and assess what this Scheme has achieved in the four years of its functioning. We also feel that the public has a right to some more details of this Scheme.

Finally, the most important question of all: Is discipline something that can be imposed from above, or is it something which a child (or adult) must recognize as a design for living with himself and with others, a power which grows with a person as a result of guidance, teaching, protection and love? Guidance, teaching, protection and love are the basic responsibilities of the adult towards a child, and it looks as if many parents and teachers throughout the world are failing to provide them.

The September issue will be a special one on 'Classroom Technique'.

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INDISCIPLINE—ITS CAUSES AND THE REMEDIES

Train Children in the Use of Freedom

THE PROBLEM of lack of discipline among young people is very much with us today. University students have unfortunately become notorious for kicking over the traces and for highlighting this lack of discipline, which seems to be greater now than it was, say, fifteen or twenty years ago. Certainly, whether discipline is worse than it used to be or not, the lack of it has been brought to the attention of the general public in many unfortunate happenings.

Although when lack of discipline is mentioned thoughts inevitably turn to the students themselves, in their indiscipline we see the result of faulty training in schools and homes. The remedy, to a large extent, must be applied before young people reach the university stage, for indiscipline in adult life stems back to ill-advised training of the child when he is very young. In fact the roots of the problem are to be found in the very early years of life and in the way in which babies and small children are trained in the home. Efforts to inculcate discipline must start with the parents. When the small child is always allowed to have his own way, and when, on occasions, it seems to him that he is not going to get it and he proceeds to make himself unpleasant in various ways, and then gets what he wants, he is learning a procedure which he uses later when he is an adolescent. The technique of the undisciplined university student is essentially the same as that of the spoiled child in the home. One remedy, therefore, is to be found in the training of parents in wise child nurture.

THE USE OF FREEDOM

One reason why lack of discipline becomes prominent among students is that they have never been trained in the use of freedom, with the result that when they get freedom they proceed to abuse it. In schools a fairly strict control is exercised over pupils. They are carefully supervised. Measures are taken to see that they do at least a minimum amount of work. Their games are controlled and supervised and, generally, conformity to rules and regulations is enforced. When they leave school and are suddenly pitchforked into student life, they find that most of the controls of school disappear. They are given a great deal more freedom than they have ever had before. Whether they work or not depends on themselves. There is not the same supervision they were accustomed to in school. Thus a considerable measure of freedom is suddenly thrust on them and they do not know how to use it.

At the present time this problem of freedom and its misuse is accentuated by the psychological atmosphere in the country, and has been so accentuated for the last eleven years. Naturally enough, the gaining of national freedom has had an intoxicating effect. There has

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been a subconscious feeling that freedom has been attained and galling restrictions removed so that people feel they can now do as they like. Added to this is the training that the nation received in the days of the fight for independence in flouting authority and in disobedience to the law. While this may be necessary during a fight for independence, the attitudes engendered do not pass away with the securing of independence. Just as you cannot train men for years to kill one another in war and then expect them suddenly to revert to the old order where killing is murder, so you cannot have years of resistance to authority, no matter how legitimate this resistance may be, and then expect those who have been thus trained to change their attitude. Consciously and unconsciously the same attitude to authority will continue.

If the problem of discipline is to be solved, then one thing that must be done in our schools is to train young boys and girls how to use freedom. This can be done only by giving them more freedom, a freedom which should be graded according to their ability to undertake responsibility, but which, within such limits, will be a real freedom. My experience has been that by far the best way to do this is through a system of self-government in the school. Many such systems are well known though perhaps not widely practised. But only by some such system, in which real freedom, within limits, is given to pupils to manage their own affairs, to discipline themselves, to make necessary rules and regulations and to see that these are carried out, will the adolescent leave school prepared to use wisely the greater freedom which comes to him in student life.

Frustration

It is generally admitted that a fairly large number of those entering the university are not really fitted for academic work: they go to the university merely to put off the evil day when they will have to face unemployment. They have only a faint hope that what they do in college is going to lead them somewhere. There is, therefore, a widespread sense of frustration. Unconsciously as well as consciously many students feel that they are not getting a chance to use their particular abilities, and this leads them to kick over the traces. A large amount of indiscipline among older adolescents would disappear if they had a real hope and purpose in life and some chance of achieving that purpose.

The remedy for this state of affairs must be a long-range one. But if schools made a real effort to give vocational guidance, and helped pupils to get rid of the idea that everyone who matriculates must go to college, then a great deal of the prevalent sense of frustration would disappear and with it a good deal of indiscipline. When a person feels that he is training for work which he is fitted to do and which will give scope to his particular abilities, he is naturally much more likely to be satisfied with life. It is true that this involves economic problems

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and that teachers can do little, apart from what any citizen can do, to improve the economic system. But it is also true that many pupils, if given guidance, could be directed into work which would satisfy them, even under present conditions. Much of the present indiscipline in colleges is due to the fact that large numbers of students should never have gone to college. This is no reflection on their intelligence. It is just that academic work is not what they were meant to take up.

Teacher-Student Relationships

In discipline, as in everything connected with education, the vital factor is the relationship between teacher and pupil. It is sometimes said that nowadays neither teachers nor pupils work as hard as they used to, and that this results in lack of discipline. No one is in a position to prove whether this is true or not. But one thing can be said, that if classes are too large, then neither can the teacher do himself justice nor can the pupil get from the teacher what he has a right to expect and what is essential for his general development. Lack of discipline can be directly traced to overcrowded classrooms both in schools and in colleges. When classes are too big the teacher cannot give individual attention to pupils as he ought to, with the result that he does not have the influence over them that he should have. The outcome of this is that the general development of the personality suffers. We are still enslaved by the old idea that education means giving instruction. No real attention is paid to all the other aspects of the personality. The result is unbalanced emotional life, lack of self-control and unsublimated urges.

A balanced and harmoniously developed personality cannot be acquired by young people when they meet their teachers only in masses of fifty, sixty and more. Even instruction cannot be satisfactorily given under such conditions. Much smaller classes and a more creative relationship between teachers and taught are essential for a solution of discipline troubles.

Activity

This leads up to another cause of indiscipline. Every teacher knows that if he is having trouble with discipline in his class, his difficulty can usually be solved by giving the pupils a chance to be active and to engage in something which keeps them busy. But this is usually impossible with big classes. Activity, of course, does not mean only bodily activity. It also includes mental activity. But in so many schools and colleges there is little encouragement to pupils and students to be mentally active. This is not always the fault of the teacher. Certainly it is not his fault if a huge class is inflicted on him. But all too often teachers do not use methods of teaching which ensure mental activity on the part of those they are teaching. If such methods were used more, then discipline would not be the problem which it has become. We all know that it is true that Satan finds

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work for idle hands to do. It is also true that he finds work for idle minds to do. The remedy for this is in our own hands.

This lack of training in the use of the mind, and the failure to inculcate the habit of thinking for oneself, is responsible for the ease with which irresponsible outsiders are able to influence students. Again and again we see that it is claimed that students have been led astray by agitators. They can be led astray because they are not in the habit of thinking for themselves, and the cause of this goes right back to the school, even to the primary school. We have been neglecting what should be one of the main aims of education and are reaping the results.

Pugnacity

Another cause of lack of discipline is lack of pugnacity. It may appear that there is altogether too much pugnacity displayed. But this is an unsublimated pugnacity directed into wrong channels. How often have we been faced with undisciplined demonstrations by students because an examination paper is too difficult. They walk out and break windows. This is because they have not been trained to face up to difficulties and to battle with them. Unless everything is made easy, they rebel. This means that earlier in life they were not encouraged to fight against difficulties. They were led to expect life to be made smooth for them. Hence their indiscipline when they come up against things in life which cannot be made smooth. We are back again where we started, that is, training in the home. Parents tend to do too much for their children instead of helping them to do things for themselves. This is continued in school, where teachers are more concerned with their pupils passing examinations than with helping them to develop strong characters. Hence we have books of 'helps' and other 'examinations-made-easy' devices. Here again the remedy is in our own hands. It should always be in the forefront of our minds that our job is to help our children to develop into self-reliant persons who will not be frightened by difficulties but will welcome them as something worthy of their steel. Discipline, that is self-discipline, is ultimately a matter of such development.

W. M. Ryburn

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DISCIPLINE AND THE CURRICULUM

The Curriculum is an Important Contributory Factor

AT FIRST SIGHT the connexion between discipline and the curriculum appears to be slight. What have the syllabuses in arithmetic, social studies, science or language to do with problems of order in the classroom, cheating in examinations, and student strikes? Everyone will agree that there are causes for these, and similar disorders, which lie outside the curriculum. At the same time there are those who plead for the inclusion in the curriculum of such diverse subjects as religious or moral instruction, civics or citizenship training, and physical education or sports, on the grounds that they are an aid to character-training and to the building of good discipline. These subjects do have their contribution to make towards discipline, but it is with other aspects of the curriculum that this short article is concerned. What do we mean by discipline? It is more than order, though the order aspect of discipline is often uppermost in the minds of teachers for the obvious reason that the absence of order causes more inconvenience than other failures in discipline, such as laziness, inaccuracy or lack of concentration.

It may be useful to consider what we mean by a disciplined person. He is one who not only obeys rules but also exercises self-control. He can bear a reasonable amount of drudgery, frustration, and difficulty. He is accurate in word and deed. He can accept a goal and work steadily towards it. He shows a sense of responsibility, and will not be satisfied with low standards. Socially he must show patience and good temper, and be equally happy as leader or follower according to the situation. One could go on developing this picture, but this is sufficient for our purpose. If we can develop people of this kind, the problems of order will take care of themselves. We need to ask ourselves whether our curricula encourage or discourage the development of disciplined persons.

In what ways can a curriculum promote or disrupt discipline?

1. Where a curriculum is overcrowded there is insufficient time for teachers and pupils to do anything properly. An inevitable lowering of standards follows with the dangerous attitude that this is all that can be expected. One often goes into a shop to buy something and is told, 'This is Indian made, not so good as British', in a tone of voice that suggests that this is unavoidable. The school should play a big part in restoring a sense of pride in a job well done. One often hears teachers say, 'There isn't time to cover the syllabus. I know I ought to give more written work but there isn't time to correct it', and so forth. A little done well is more conducive to the development of disciplined character than a smattering of knowledge in many topics.

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2. But inevitably this creates a problem, for what is an overcrowded curriculum for the average child may be a good curriculum for the bright child. A slow pupil who is rushed on to a new topic before he has mastered the first is discouraged from developing high standards. He can never do anything well. Because his achievement is poor he cannot take pride in his work. A child who is not given time to make a good job of anything will not develop those qualities of perseverance and the appreciation of work well done which go to the creation of a disciplined character.

Where children are given tasks within their powers and given time to do them, discipline results. This is a fact which emerges from a study of John Duncan's book, *The Education of the Ordinary Child.*[1] India is fortunately not obsessed with time as the West tends to be, but this very lack of obsession, good as it is, may lead to a weakness in the ability to assess correctly the time required for a task. As school syllabuses are often drawn up by people who have not much contact with the average child in the school, the syllabuses tend to be overcrowded.

3. If the curriculum is so ordered that the slow or average pupil has time to cover it and to experience the satisfaction of doing at least some things well, we have the problem of the bright pupil who is able to satisfy his teacher without making much effort and who learns nothing of the discipline of sustained application. He tends to become lazy and 'Satan finds some mischief still for idle hands [and minds] to do'. A number of good minds are lost to the community because the owners of them have not learnt discipline. Because their school work has been easy to them they have failed to develop those characteristics of industry and perseverance in the face of difficulties which are essential in people who occupy positions of responsibility. Learning experiences which make real demands on them are an essential part of the training in discipline of able minds. If we cannot have different curricula according to the aptitudes and abilities of the pupils, we may perhaps ask ourselves if the syllabuses are so organized as to allow teachers to make greater demands on the more able and at the same time to see that the slower are able to do some things reasonably well. There is a case for abolishing centrally prescribed syllabuses and allowing schools to draw up their own to suit their particular needs.

In addition to the quantitative aspect of the curriculum, there is also the question of the suitability of topics to the age-group and of methods of instruction. Methods which consist mainly of 'explaining' the textbook, dictating notes and model answers and requiring them to be memorized are not calculated to develop disciplined minds, but slavish ones. For many children, learning by heart is easier than thinking. Certainly it demands industry and the bearing of drudgery, but it does little to train discrimination, which is one of the marks of

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the disciplined mind, nor does it develop a sense of responsibility for one's own answers.

Among other problems arising out of the curriculum, it would be interesting to investigate that of the frustration engendered in college students by the change to the English medium. Frustration leads to lack of discipline. If it is reasonable to trace a connexion, then it would seem advisable either to retain the regional language medium, or, if it is considered that the advantages of the English medium outweigh the disadvantages, the problems of the change should be tackled in a more systematic and realistic manner than is being done at present.

Enough has been written to suggest that there is a connexion between discipline and the curriculum. But the impression must not be given that the curriculum is the main factor. The most potent factor is that elusive thing, 'tone'. And tone depends ultimately on the staff. Where the staff are disciplined, their work done punctually and conscientiously, their personal relationships good and their loyalty to ideals obvious, disciplinary problems tend to be fewer. That is why so often schools and colleges built on a religious foundation are more effective than secular schools, and when this is not so it is often because the staff have forgotten the obligations of their religion. At the same time teachers are members of a wider community, and if that community is not prepared to give teachers proper recognition and support, it cannot expect them to bear the burden of developing disciplined citizens.

JEAN FORRESTER

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HARNESSING CIVICS TO DISCIPLINARY ENDS

Arousing the Child's Social Consciousness

'The mind is not a vase to be filled, but a hearth which is to be made to glow.'

—Plutarch

A THOUGHTFUL WRITER has well said that wars originate in the minds of men, and that in their minds, therefore, they must be ended. Now, what we describe as belligerency in the political world functions as indiscipline in the educational world. The thoughts of disharmony arise and bristle nowhere but in the minds of the educands and it is there that they have to be cornered and crushed.

'The will', said Herbart, 'takes its root in the circle of thought.' Hence, no socially healthy outlook, temper or temperament can be made to flourish unless members of the teaching profession make a determined effort to socialize the mental outlook of the alumni. The Education Department of Bombay State has done well to make the study of civics a compulsory item on the curriculum, and the authorities have been wise enough to make the course as little hidebound as possible, at least in Standards VII and VIII. In fact, these classes are required to learn the subject without a textbook, and it is our design here to see how this golden opportunity can be utilized to discipline the minds of students with a view to leaving an enduring mark on their character.

In teaching we always proceed from the concrete to the abstract. At the earlier stages of a child's education nothing is more concrete and more significant to the child than his home. The distinction between house and home has therefore proved to be a most appropriate topic to start with. A direct appeal to the children's own experience leads the class to realize that group-life means a great deal of self-sacrifice. Thereafter, they are prepared to take in and digest the inevitable social virtues of obedience, kindness, helpfulness, respect for others, tolerance, and co-operation. There is no guarantee of this digestion, however, unless the 'hows' the children inquire into and the 'whys' they pose are suitably answered and illustrated. Thus conditioned, the citizens-to-be are able to realize that the home is our first school and that it is the nursery of civic virtue. They also begin to understand correlative terms such as 'civic life', 'civic sense' and 'civic progress'.

The problem is to rouse what may well be called the social conscience, and to provide a judicious exercise in self-assertion together with self-suppression. These are not easy goals to reach unless the lessons are given in an atmosphere of fairness and freedom wherein children are encouraged to ask questions and even to raise objections, and the

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teacher's answers to these questions and objections are utilized in the blackboard notes which children will subsequently carry home, partly in their notebooks but largely in their minds.

The rights and duties of the citizen do figure in the syllabuses suggested for these standards. But these make little impression unless we start with the children's knowledge of their rights and duties in their homes. That done, a vigorous effort must be made to show that a right is inconceivable without its corresponding duty or duties, and that a right is automatically forfeited by neglect of duty. It is then that students not only learn but practise memorable dicta such as: 'Rights and duties go hand in hand'; 'Right and duty are two sides of the same coin.'

The situation then becomes ripe for the introduction of the school as a second home and of the pupil's rights and duties therein. It is at this stage that topics such as regularity, punctuality, attention to the teacher, respect for rules and regulations are fruitfully discussed and produce permanent and salutary effects on the minds of the children. By this time they feel ready to accept the creed that 'the path of duty is the way to glory'.

Something of a missionary zeal is needed on the part of the teacher. Nothing in the shape of educational jurisprudence or disciplinary action will bear fruit unless the children see for themselves that the teacher's general attitude and exercise of authority are akin to those of the parent, and the school is made to function as an assemblage of diverse pupils brought under one roof and one law. The sword may win a battle, but it is a word that wins a heart and mind.

The next step up the ladder is the inculcation of the rights and duties of citizenship. The pupils may well be asked: 'What will your rights and duties be when you become full-fledged citizens?' Here begins the great task of guiding loyalties, and this is decidedly the supreme aim of the teaching of civics at school.

The growing child begins to feel that he is being pulled in several conflicting directions—by the home, by the school, the church, and the State. This conflict is so monstrous a puzzle to the child that he tries to violate all law and to resist all authority. Is this not the main cause of indiscipline at the middle and the upper stages of the high school? Now it is up to the teacher to resolve this conflict and to disentangle the skein of confusion which overwhelms the tender mind of the child. The principle to be driven home is: 'Render therefore unto Caesar the things which are Caesar's and unto God the things that are God's.' Respect cannot be commanded; it must be inspired. Discipline cannot be maintained by fear but by *love*.

That civics is the art of living together has proved to be a good working definition at this stage. With this guiding precept kept in view, several topics concerning practical citizenship can be put across effectively: (i) the queue system; (ii) behaviour in a railway compartment; (iii) at a social gathering; (iv) in the corridors during recess; (v) on the way home after school; (vi) listening to a debate or lecture;

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(vii) in an emergency; (viii) consideration for others in the classroom; (ix) among others of diverse caste and creed; (x) hooliganism; (xi) care of property; (xii) the use of leisure.

Side by side with this, the teacher should have a large stock of interesting and suitable stories and short biographies. These may be narrated at appropriate stages, or at the right psychological moments. The morals arising from the stories should not be overstressed. The biographical sketches must be left to produce their own effects. Proverbial sayings are also found to be useful aids. But these have little effect except when they are simple and when they serve the purpose of clinching an issue. For example, 'First come, first served' is an appropriate slogan to cite when teaching the principle of the queue system. Similarly Nelson's famous answer, 'I have always been a quarter of an hour before my time, and it has made a man of me', goes well in a lesson on punctuality.

An aim so far-reaching as we have adopted cannot be made to rest on mere factual information of the lessons to be learnt. An impression of the civic virtues must first be made. Therefore, let the children be systematically engaged in (i) class debates; (ii) a class panchayat system; (iii) a scheme to engage abler boys to help weaker ones in studies; (iv) production of a class magazine. These, among other devices, will provide practice in the prime principles of life: service, self-sacrifice, sense of duty, and co-operation. What is more, the pupils will learn to live together.

The full effect of this approach to the study of civics will undoubtedly be felt in Standard IX. At this stage we meet students in the first flush of adolescence, when they are disturbed and disturbing. The effect of this previous training is so beneficial that the pupils of Standards X and XI do not pose a problem. Once the conflict is resolved, we shall have nipped impending delinquency in the bud. Discord will slowly but surely yield place to concord and there will no longer be, in A. S. Neill's phrase, 'that dreadful school'.

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THE INDIAN APPROACH TO DISCIPLINE

A Lesson from the Past

ONE must be careful when one talks of discipline in India today in order to avoid being accused of being a *laudator temporis acti* who never tires of speaking of the days when he was a boy. But this danger hardly exists now that this issue is being discussed by politicians, teachers, and parents. Not only absence from school without reasonable excuse, unpunctuality, disorderly behaviour in class and at meetings, but even instances of premeditated and organized defiance have occurred in this country which boasts of its ancient tradition of discipline.

On this fact there is no disagreement. But it is difficult to agree on the causes, for they are many and interrelated. The first signs of the epidemic appeared in the years just before Independence, when students of all ages were encouraged to show their 'nationalism' by indiscipline; they not only learned the easy lesson but bettered the instruction. By a curious coincidence Communism also sang its siren song in the ear of youth. Meanwhile our schools and colleges grew in what is called strength but is really weakness, and the contact between teacher and taught diminished. On the other hand, growing unemployment among the educated has given students a sense of futility which in turn leads to restlessness and recklessness.

Thus one cause brings forth another, till a whole chain is discovered. Which is the first link in this chain? I would suggest that owing to a host of causes, partly economic, partly social, and partly educational, we have lost the right approach to discipline—the Indian approach. Discipline means discipleship and includes those restrictions which inevitably go with the state of a disciple. A student is not necessarily a disciple, for he may study by himself. But if he studies under a teacher, he must sacrifice some of his freedom and restrain himself from doing certain things which are perfectly lawful to a non-disciple. And in this, as in every other aspect of life, each country has its own ethos. Indians are generally more attached to persons than to institutions: to us our Alma Mater is not just a collection of buildings, which remind us of our school and college days, but they chiefly represent the men or women who shaped our characters and our ideals. This is why Old Boys' Associations rarely succeed in India unless the same teachers continue in the school for years on end and keep in touch with present and past students.

Discipline, too, is conceived in India in a personal way. Perhaps this is less perfect than the impersonal, objective discipline which is independent of the age, the character and attitude of the teacher. The rule of law is a higher concept than the rule of an individual. But the fact remains that centuries have confirmed us in this way of thinking. With the growth of numbers and institutions, and perhaps also with the spirit of the West that we have imbibed through its

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literature, history, and philosophy, we have imported a Western attitude to discipline which has not been assimilated by our people. We have multiplied our schools and teachers and built larger classrooms and hostels for the increasing number of students, but we have forgotten that education is, as Bergson said in a flash of insight, a bringing forth of the child intellectually and morally even more truly than the physical bringing forth by the parents; it is essentially a personal contact between one who has reached a certain perfection and one whose ambition is to be like him.

That the very idea of discipline in India is based on a personal attachment to a teacher is clear from not less than three thousand years of our history. The Vedic schools were meant for the training of priests, just as the medieval schools in Europe were monastic institutions for the training of monks. But soon both Indian and European institutions were widened to admit lay pupils too, without relaxing the close contact between teacher and taught. By 500 B.C. even Kshatriya and Vaisya boys were being educated by Brahman teachers such as Gautama, Apastamba, Vasishta, and Baudhayana. Both teacher and pupil were carefully chosen—the teacher by the parent and the pupil by the teacher. The *Mundaka Upanishad* says that the pupil should be entrusted 'to a guru who is learned in the scriptures and established on Brahma'. According to the *Chandogya Upanishad*, the teacher, Haridrumata Gautama, made a searching inquiry into the antecedents of Satyakama Jabala before consenting to be his guru with the solemn formula: 'Bring the fuel, my dear—I will receive you as a pupil.' The ceremony of initiation or *upanayana* was the beginning of a 'sitting near' the teacher and asking him questions, answering his questions (in the Socratic manner) and, above all, observing, admiring and imitating him. The study of a curriculum was of no importance and consisted of reciting *slokas* by heart with explanations which can hardly be called critical. It was worth crossing rivers and forests to find a good teacher; but once found, he deserved the humblest service. Tending his fire—which meant cutting the wood in the forest, carrying it home, and building a fire—grazing the teacher's cows, running errands for him and his wife, bringing water from the well, sweeping, begging for him, and studying the Veda in the time left over after working for the teacher were all part of the student's duty.

Studentship was thus from our earliest times a companionship and service of the teacher, an apprenticeship of several years in the guru's own home where the pupil was considered and treated as a son. What we now call discipline came naturally in such circumstances. Apastamba says that the student must obey his teacher, except if he is told to do something wrong; Gautama says that the pupil must sit on a lower level than his teacher; if his guru sits windward, he must sit leeward. In his teacher's presence he should not cover his neck, cross his legs, stretch out his feet, or lean against the wall; if his teacher walks, he must walk a little behind him; he must get up in the morning before

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his teacher and go to bed after him at night; he must salute his guru the first thing in the morning, and touch his feet with his hands; he must not speak when his teacher is speaking, or interrupt or contradict him; he must not even pronounce his teacher's name.

Was punishment ever necessary when the pupil lived night and day in the company of a great and good teacher? Gautama, Manu and Apastamba all agree that it should be rarely necessary, but the most effective means were fasting, cold-water bathing and, worst of all, banishment for a day from the teacher's presence.

Even when the Buddhist system took the place of the Brahmanic, and the *Vinaya* was substituted for the *Veda* as a textbook, the concept of education and therefore of discipline remained the same. I-Tsing's description of a Buddhist school in A.D. 600 might have been written ten centuries earlier; even Nalanda, which was a university with 3,000 students in the 7th century A.D., followed the same concept of personal contact between teacher and pupil, the same father-son relationship and strict 'discipline', which was not imposed from without but arose naturally from within.

Though the Muslims were foreign invaders, they kept two features of Hindu education intact: in their *maktabs* (primary schools) and *madressahs* (secondary schools and colleges) they primarily taught religion, and they made teacher and taught *live* together in personal companionship and mutual service. Under Akbar and Aurangzeb there seem to have been classes, or groups of boys, under each teacher; but even then the number was sufficiently small to allow of that mutual personal knowledge between teacher and pupil which is the only solid basis of discipline as Indians understand and practise it.

From this rapid and superficial glance at the past, one fact appears unmistakably: that the Indian approach to discipline has always been personal and based less on principles and theories than on example and companionship. Indeed, one wonders if there could have been any problem of discipline at all when a pupil, however mischievously inclined, lived, talked, ate and slept with an almost perfect teacher. We can no longer have a small number of students; still less the one-pupil-per-teacher ratio of former days. The clock cannot be put back. But while adapting ourselves to modern conditions, we would do well to remember Mr C. F. Andrews's warning in his Convocation Address at Calcutta University in 1937: 'The crowded classroom is sub-personal, sub-human, herd-like.' We cannot help the crowded classroom, though there is a limit beyond which it ceases to impart education. But should we not choose our teachers better if they are to deserve the respect and love of their pupils, without which discipline becomes a soulless repression leading to unpleasant reactions at the earliest opportunity? If and when the best men and women sacrifice themselves to educating the next generation, the problem of discipline may disappear from our midst.

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AUTHORITY AND DISCIPLINE

Authority is Essential in the Home and School

THE rapid growth of the democratic ideal, of the democratic way of life, and the identification of 'authority' with authoritarian regimes have made the whole concept and function of authority suspect. The key-note of the democratic ideal is a fervent belief in the uniqueness and sanctity of the human personality, and in the liberty of the individual to develop that personality to its highest potentiality. With the realization of both these ideals the concept of authority appears to be in direct conflict. Hence authority has been largely banished from many spheres of life. Both in the home and in the school—the two main educational agencies in the life of the average child, authority is mistrusted, and in actual practice it is either non-existent or has been whittled down to such an extent that it exercises little influence over the growing child. Freedom is the new shibboleth in the educational world. Almost complete freedom for the child from all restraint of parents or teacher is advocated so that he can 'express himself' without hindrance! In the circumstances any mention of the role of authority is anathema, for it is regarded as an obstacle to the free growth of the child's personality.

FREEDOM AND ITS MEANING

The complete libertarianism of many modern educational theories is a natural though extreme reaction to the rigid and inflexible authoritarianism of the older educationists who held that a child should be seen but not heard. The modern stress on greater freedom for the child to choose and fashion his own education is a healthy one, provided we are quite clear about what freedom really connotes in the total context of a child's education, and do not fall into the prevalent error of confusing freedom with licence. Freedom is not necessarily a release from all restraints and prohibitions; nor is it something that can be imposed on the child from outside. Freedom is positive; it helps to discover and develop the best that is in each one of us, and such freedom implies authority, discipline and self-control. Further, freedom is not a gift but a conquest. For adults to abdicate all authority and give the growing child complete freedom, before he is ready for it or has developed the self-discipline necessary to make creative use of it, is as psychologically detrimental as denying him any liberty whatsoever.

The ideal should be to let the child earn his freedom in gradually increasing measures, and at the same time to help him to make the best use of such freedom to develop all that is best in him. Authority has an essential role to play in this process of helping a child to make the best use of his freedom. The consummation will be reached when the child has attained sufficient self-mastery over his own undisciplined

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impulses to tread of his own free will the straight and narrow path towards true self-realization. This is self-expression ruled and directed by a worthy ideal. But till that happy state is reached—and how few adults reach it—the growing child must be led along this path by the kind, understanding, yet firm hand of authority. The reintroduction of a sane element of authority into the education of the child is one of the most pressing needs of the day, for the spate of indiscipline in home and school and the serious growth of juvenile delinquency are primarily due to the lack of this vital element in early education. If authority abdicates from the home and the school before the child is gradually led from externally imposed discipline to self-discipline, licence takes its place, because children, unused to handling the double-edged weapon of freedom, are bound to abuse it and inflict serious intellectual, moral and spiritual damage on themselves and on others. The young child expects his elders to exercise a certain measure of authority over him, to help him to discipline his unruly impulses and passions. If his elders, because of a misconception of the true nature and role of liberty in the child's education, thrust complete freedom on him to do as he pleases, the child instead of being grateful is more likely to be resentful. There is only one thing worse than an excessive use of authority in the home and in the school: too much freedom, given too early and too fast!

Authority in the Home

The use of authority must begin in the home, because, as modern psychologists have stressed, the first few years of a child's education largely determine the character of his physical, intellectual, moral and spiritual growth. The early education of the child is the responsibility of his parents, and fortunately so, because they are peculiarly well fitted to teach the child the true significance of authority and the necessary distinction between true authority on the one hand, and authoritarianism on the other. The child knows his parents love him and have his best interests at heart and, even when they use their parental authority to compel him to do things distasteful to him, he has a sneaking awareness that though he may not be able to appreciate the reason for their exercise of authority, such authority is being used for his own good. Hence the parents are much better fitted to teach the child to obey lawfully constituted authority in the right spirit than are teachers or policemen. This, of course, implies that the parents are alive to their responsibilities, that they reverence the individuality of the child, and exercise their authority for his benefit. The child is, for the most part, a rational creature, who will obey authority he trusts if he is given sound reasons for doing so. Hence, instead of peremptorily issuing orders which demand blind obedience, parents would do well to take the time and trouble to endeavour to convince their child of the reasonableness of the authority they are compelled to exercise over him.

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Authority in the home must also be consistent, for an inconsistent use of authority is worse than no authority, as it sets up feelings of frustration and insecurity in the child. The role of discipline in the home is fundamental; if a child learns to ignore, circumvent, or hate the authority of his parents, he will transfer this attitude to his teachers and all others placed in authority. Nothing is more common, more stupid, and more dangerous than the attitude of those parents who allow their children to openly flout parental authority during the first six or seven years of their life, and, when they send them to school, expect the unfortunate teachers to instil in them true respect for adult authority. Neglectful parents sow the wind; the teachers and society at large, sooner or later, reap the whirlwind!

Authority in School

The role of authority in the school is influenced, limited and bounded by the home education of the children. The timid, over-dependent child who has been bullied, and the aggressive, anarchic child who has been allowed to run wild at home, are types of 'problem' children encountered by the average teacher. The teacher cannot shirk his responsibility towards them. Both need the right type of authority to help them to develop into normal healthy children, but in each case the approach will have to be different to achieve the best results.

No hard and fast definition of the role of authority in the school can be laid down, because children are diverse individuals, and each will have to be handled differently. But certain guiding principles can be laid down. To begin with, authority is as essential in a school as liberty, perhaps more essential in the early years. The success of a school and of a teacher will depend very largely on their ability to strike a happy and judicious balance between liberty and authority, a balance that will be different with different children, in different situations, with various age-groups. Secondly, authority should not imply authoritarianism, regimentation or the rigid imposition of unreasonable rules and prohibitions. Authority in schools should be rational and consistent, and should demand not a blind, but a reasonable and willing obedience. It should be consciously and conscientiously exercised in an honest, impartial manner by teachers who are neither petty dictators nor mere cyphers, but mature leaders of a co-operative community in which certain rules framed for the good of all have to be obeyed for the good of the individual and of the community. Commands should be as few as possible, and rules reduced to a minimum, but they should be rigidly enforced, avoiding the hypocritical 'This will hurt me more than it hurts you' approach. Children will have to submit to authority and to obey social, political and moral laws in later life, any breach of which will be followed by the appropriate punishment; the sooner they learn this, the better.

Austin A. De Souza

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THE NATIONAL DISCIPLINE SCHEME

SOME of us, whenever we found time from our preoccupations with the affairs of the Azad Hind Government, while in South-East Asia, wondered what shape Free India would take after Independence. Some thought in terms of increasing its army to guard against her subjugation by other powers. Others talked of increasing production rapidly through industrialization to eradicate poverty, and there were those who talked of the people of India, how and what they should do to consolidate the nation, and of their capacity to rule themselves on democratic principles. I, for one, contented myself with the behaviour of youth, and with the tremendous reservoir of their energy which must be profitably utilized if the fruits of freedom were to be enjoyed. Fortunately I had the advantage of an extensive study of this problem of youth as it presented itself in other countries and of the remedial measures they adopted to eliminate indiscipline.

Then came Independence—the consummation of the desires and aspirations of millions of our countrymen—and, as was feared by many, it brought in its train a torrent of forces both good and bad. Thanks to the untiring efforts and dedication of our leaders, to a great extent the nation has steered clear of these forces of disruption and retrogression, and the goal is set.

In one direction, however, and an important one at that, there has been no improvement. If the recent incidents of vandalism and attempts at defiance of authority indulged in by the young in order to ventilate their genuine or fancied grievances are closely studied, it seems as though things have got out of hand, and that only concerted bold measures can help in arresting this undesirable current of indiscipline. Should we fail to turn the tide in the direction of discipline, before long we may find our very existence as an independent nation undermined.

While it is not necessary to burden this article with the causes which contribute to this malady, for a proper appreciation of the assumptions made and the conclusions drawn in our battle against indiscipline, it would seem desirable to refer to them in passing. Indiscipline, in my view, primarily stems from the chauvinistic zeal displayed by us after Independence to do away, somewhat hurriedly, with the old set of values which admittedly resulted in the stagnation of our society. Their replacement by a new set of values, more enduring and in consonance with the needs of Free India, cannot for obvious reasons be precipitated. This thoughtless race for betterment has unleashed a torrent of forces inimical to the national interest. Among these, particular mention may be made of the sickeningly frequent condemnation of the present system of education. The direct result of this is a feeling of insecurity amongst the young people, so much so that it has affected the relations between teacher and taught. The student community has lost its moorings as the teachers cannot stand up to the machinations of self-seeking individuals who, taking advantage of the confusion,

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spare no means in exploiting it to further their aims. Other factors, such as bleak prospects of a settled future, lack of an ideal and, above all, total absence in the majority of homes of elementary lessons in civic behaviour, also have contributed to this malady. Quite obviously, nobody who has the country's interest at heart can acquiesce in this; nor would it be correct to lay the entire blame on the young. They have already shown, during the long years of our struggle for freedom, what heights they can attain if only they are guided and an ideal is placed before them. Since the malady is deep-rooted, it needs long-term treatment. Imbued by a sense of national good and somewhat alarmed at this state of affairs, I offered to put before the nation a scheme (now popularly known as the National Discipline Scheme) which would immediately arrest further deterioration in the standards of discipline and at the same time lay a secure foundation for the eradication of this malady. The scheme embodies the following: (i) physical training, (ii) mental training, (iii) administration, and (iv) organization.

Physical Training

Physical training is necessary as it helps to develop a healthy body, a spirit of comradeship and leadership. It has been universally recognized that drill is the foundation of discipline. Attention to these aspects makes the task of developing the mind through mental training much easier. The advantages that accrue from this type of training are obvious and there need be no fear of controversy about its merits. However, care is taken all along to ensure that the training does not relegate the trainee into subservience but helps to retain the spirit of action and initiative. The fear expressed in certain quarters initially, that this type of physical training, which is somewhat on the lines of military training, would result in a regimentation foreign to the temperament of Indians, has been allayed completely and it would be safe to assume that the scheme has stood up to the severest tests at the hands of our leaders, that its aims and objectives are in harmony with our individual and national interests.

Mental Training

We have pledged to give ourselves a form of government based on the principle of liberty, equality, and fraternity. The concept is not new to this country. Spiritually it can be traced to the teachings of the Vedas and the Upanishads, affirmed by Lord Buddha. What we are trying to do now is to build upon this rich heritage of the past a socio-political order which would be in tune with the present. Unfortunately for us, however, we seem to have reached a stage in our journey where we find ourselves at the mercy of certain powerful currents which would have us turn against our historical training in mental discipline.

The young man of India today is a figure of tragedy. He is a product of a land famous for its past civilization, but he is utterly

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unaware even of the elementary facts about India's greatness and of the factors contributing to its glory.

These shortcomings, portentous as they are for the future of our motherland, would have to be overcome in as short a time as possible. The mental training part of the Scheme aims at tackling the problem by giving lectures and arranging symposia with the following objectives in view:

1. The development of the personality of the child and helping him correct his own faults without pressure from outside.
2. Ridding the child of the narrow protection of inhibited homes and attuning him to a 'community sense' both physically and emotionally.
3. Infusing in him a sense of tolerance and balanced self-assertion, and a correct sense of values.
4. Teaching the child about the various deeds of valour and sacrifice of our leaders, past and present, and giving him a detailed study of the golden period in Indian history.
5. Discouraging all tendencies towards sectarian and sectional loyalties and creating pronounced bias in favour of nationalism.

I should make it clear here that throughout the training the emphasis would be on getting the best out of the trainees with minimum guidance from the instructors and lecturers, who should gradually recede into the background. The attempt would all along be at helping the students to adopt the training as a way of life, more through observation and a spirit of accommodation and not through excessive self-assertion. It is also designed to promote the growth of all the faculties with a view to equipping the trainees for the part they are expected to play in the country's future.

The syllabus for lectures, discussions and symposia will be carefully worked out after a good deal of research into the works of the past. This work, important and basic as it is to the Scheme, is proposed to be entrusted to a board comprising five or six members who will be men of proven ability and scholarship in the field of education and history. All material for lectures and guide pamphlets will be approved by this board. The lecturers will be drawn from among the ranks of experienced teachers in colleges and schools, and they should be men and women who are enthusiastic about the Scheme.

The training will be introduced only in those schools which volunteer to take it up on their own, and where the trainees have shown good results in the field of physical training. Inter-school and inter-state elocution contests and debates on current problems are also envisaged. The programme for this training will be drawn up in consultation with the school authorities and will not interfere in any manner with regular school studies.

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Administration

The idea is to equip trainees with a knowledge of the elementary principles of administration, without emphasis on any particular aspect of it, with a view to helping them when they go out into the world. Care would, however, be taken while imparting this training to ensure that all unnecessary details are cut out and the right climate created to help the trainee to understand the intricacies of administration which he will encounter at later stages in his career. This awakening in the receptive period of his life would also add to his self-confidence, which is at a low ebb in the youth of today.

Organization

By means of lectures and demonstrations, a concerted attempt would be made to make the young minds receptive to methodical, concentrated and corporate working. For example, the trainees would be told of the disadvantages stemming from the lack of organized thinking on the part of leaders or sponsors of public meetings. This should be compared with the efficiency that methodical working and planning lends to an occasion. Here, as elsewhere, the fullest freedom would be ensured to the trainee to give shape to his own ideas for self-improvement, at the same time reminding him of his duty to the nation and to society.

I have no doubt that this training, with the co-operation of all concerned, would in a very short time bring about a marked change in the mental make-up of the young people of today. It would not only result in the flowering of their genius, but would also work for the greater glory of the country. Nations are not born, they are made and moulded by its statesmen, by its leaders in different walks of life and, above all, by the people themselves. In this world of distrust and misunderstanding, we must build this country to enable it to claim its rightful place in the comity of nations. Every one of us has his own part to play, and I have every hope that all of us will put our shoulders to the wheel.

J. K. Bhonsle

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ORDER IN THE CLASSROOM

A Matter of Experiment and Experience

ORDER is defined as 'Heaven's first law', and it ought to be the first law of all class-teaching and management. As order and discipline are closely related, they are often mistaken for one and the same thing. However, educationists rightly make a distinction between the two. James Ross points out that the two are related to each other 'as means to ends'. While order is chiefly concerned with the outward behaviour of students, discipline involves a mental attitude and a sense of values.

Order therefore is the foundation of discipline. We do not merely teach but we *teach to educate*, and no teaching, much less educating, is possible without orderly behaviour in our classrooms. In the words of Benjamin Dumville, discipline without good teaching is of little value, but good teaching without discipline is impossible. Discipline here means peace and order in places where the young are taught; and it is the purpose of this article to offer a few suggestions on this important topic, based on long years of experiment and experience in education.

THE RIGHT ATMOSPHERE

Four distinct factors operate in the creation of a suitable atmosphere for law and order in a classroom. The first of these is the arrival of the teacher a couple of minutes before time, particularly at the start of a session and at the close of a recess; for it is in the absence of the teacher that much disharmony and disorder are found to thrive.

The next factor is a teacher's preparedness to meet his class and keep it agreeably occupied. The less experienced the teacher the more forethought and determination he will have to bestow on being well prepared.

The third factor is a calm and quiet tone of speech. An uncontrolled voice and verbosity are more often than not a major cause of distraction and inattention. Paradoxical though it may seem, the best teacher is one who does the least talking, and that too in a tone that is well controlled and well adjusted to the class.

The fourth necessity is a teacher's attitude of earnestness, which should be discernible at the back of all he says or does. We have deliberately used the phrase 'at the back' because, if we put earnestness in the forefront, it will amount to over-enthusiasm, which is definitely not a virtue; and earnestness must be 'discernible' for it is this discernment by the class that mysteriously decides a teacher's success or failure in class-control and management.

INSTRUMENTS OF ORDER

These again are four in number. The first is a teacher's eye, which is also known as the 'glare'. Sir John Adams calls it a wonderful gift

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for a teacher to possess. According to him, one who is able to operate the eye successfully 'is in a position to begin teaching. He has cleared the deck'. It is, however, not a 'stare', but just a mild and kindly look which 'seeing naught sees all'.

The next instrument of order is 'intonation', which is another aspect of a teacher's voice and speech. His intonation should breathe sincerity and be devoid of any sort of harshness or sarcasm. If intonation is the 'most important indication of character', the right tone should be the hall-mark of a teacher whose prime purpose is character-building.

The third factor is a teacher's 'poise'. We have deliberately avoided the word 'pose' which implies more of militancy and less of refinement of manner. A teacher should at all times be unassuming in demeanour, and handle the helm with wisdom and cool deliberation, for he governs best who governs least.

A broad smile is another instrument of order. It creates a cheerful atmosphere which wins the confidence of the class, whereas a sinister approach irritates the pupils. An occasional use of humour and laughter therefore goes a long way in keeping children happy and in making them more at home and less unruly.

The Class at Work

'There are certain arbitrary and artificial rules of conduct,' says W. E. Blatz, 'to which the child must learn to conform. An effective plan of discipline must induce the child not only to respect the rules, but also to want to conform within the approved limits.'

With this remark well in mind, we make it a rule that only one person should be heard speaking at a time in a classroom—the teacher or a pupil. However, students must not only know the rule but understand why it is enforced, for insistence on blind obedience is very likely to develop an unhealthy resentment. Nothing explains the reason for this rule better than the famous paradox, 'When all speak, none hears'. It is found that children understand this very quickly and are generally willing to conform to the rule. The rest depends upon the teacher and his manner of insistence.

Next to the method of teaching, the most important thing in a lesson is the response from the class. It is necessary to activize those who merely seem attentive. This is easily done by repeating here and there a question which has already been correctly answered. This point must never be ignored, for discipline in a classroom means 'the whole conduct of the children's understanding'. In consonance with this principle, pupils must be induced to think with the teacher. Further, there may be a pupil who wishes to ask a question, another who wants to contradict an answer already approved, and quite another who wants to add a bit of his own knowledge to what has been elicited. All these must be welcome; but no one should be allowed to speak unless he first puts up his hand and is given a chance to do so. Thus, each one

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will play his part, guided and governed by the teacher's 'baton', and so there will be perfect order.

It is not enough that the pupils think with the teacher; they must also write with the teacher. Hence a teacher should not begin writing a blackboard note before assuring himself that the whole class is ready for the task, and the next step should not begin until all have finished writing the first.

Also students should not be allowed to crowd round the teacher's desk. If for some reason some of them are required to meet the teacher, they should stand in queue-formation to the right and left of the teacher, who must also keep an eye on what goes on in front.

Very often some mannerism or other indulged in by a teacher is responsible for misbehaviour during a lesson. In such a case the best thing that the teacher can do is to rid himself of this mannerism and thus diminish the chances of fun at his expense.

As long as human nature is what it is, some disturbances are likely. A sudden stop of the teacher's talk helps to restore order; and if a teacher has really succeeded in securing conformity to his rules, the class will seldom be unmanageable. Wherever a rough edge makes its appearance, the teacher will do well to move to the offender, and he is then sure to obtain obedience for a mere whisper. In some cases a change of seat is found to be a good remedy. Issuing orders from a central position may succeed; if it does not, the teacher may end by displaying a weakness which some students are likely to exploit. Besides this, a mental note should be taken of cases of recalcitrance, and these should be dealt with individually and privately, yet cautiously and sympathetically.

As regards distractions, such as the appearance of a stranger in the corridor, the visit of a parent, the arrival of a circular, or some fault or foible which provokes laughter, it is advisable to make an effort to restore the required mood before proceeding with the lesson. 'Consider the child' is the first maxim of modern education, and not much progress in discipline can be made if we ignore the fact that children are children and not miniature adults as many teachers seem to suppose.

Discipline is largely a matter of experiment and experience. To the few suggestions we have made an intelligent teacher ought to append others from his own observation. Many difficulties stand in the way of even a conscientious disciplinarian: the classes are overcrowded, the teacher is overworked, and the behaviour of children today is not the same as it was ten years ago, owing partly to a false sense of freedom and largely because one teacher is expected to control too many children. But order in the classroom is the foundation of all discipline; it must be maintained at all costs, and that too without straining the essential teacher-pupil and pupil-pupil relationships.

J. M. D'SOUZA

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TEACHER-PUPIL RELATIONSHIP

Must be Based on Understanding, Justice and Humanity

On a bright June morning when they come to us, they are boys. On an evening in March when they finish high school, they are young men. Who changed them from boys into young men? After God and their parents, naturally their teachers.

The function of a principal is to run the school so that the teachers will develop the boys into young men. It is his responsibility to get the boys to come to school daily and on time and, being there, to comport themselves in such a manner that the teachers may develop their abilities and personalities. His work is a sort of preparation for learning. If he does a poor job, the teachers will have difficulty in doing their work. If he does a good job, the teachers are ready and willing to do their share of developing the boys. Which principal is not tempted to believe that he is more important than the teachers? He is not. His duty is to lay a foundation. This work is like that of a good police force. It makes life orderly. The principal is there for the sole purpose of helping the teachers. The day he begins to think that the teachers are in the school for the purpose of helping him to keep order, that day he will be at cross-purposes with them and lose his usefulness. Teachers will be glad to co-operate with him. They understand that they, like the boys, are in all parts of the school building at all times. The principal cannot move around so fast that all the boys will feel his presence at the same time.

Sometimes a boy comes to the principal's office complaining about injustice on the part of a teacher. The boy knows in his heart that he himself is at fault, but if he can get the principal on his side against the teacher, it will be a good day. The principal, therefore, will give the boy sympathy but no encouragement. He will ask him questions until he discovers the flaws in the boy's case. He must send the boy out of the office satisfied that the teacher has treated him justly.

These boys in a high school are always the same age. You look at them every day at morning assembly. There are the seniors, most of them sixteen. In front of you are the tenths and the ninths; on your right, the eighths and the sevenths. As the boys grow up they move along to your left, and then move out of school, but in the daily picture that spreads out before you, the composite pupil is ten to sixteen.

The building grows older. The staff grows older. The old boys grow older. The boys who stand in front of you every day, they never grow older. Next year there will be different boys, but they will be the same age as last year and have the same look in their eyes. Monday to Saturday you will learn all their changes of mood. They will keep you on your toes. They will teach you something new every day. Your life will be busy, but it will never be dull. For a principal the

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most interesting phenomenon on earth is the high school boy. He will wear you out, if you let him, but he will keep you young.

In gaining control of boys, the first thing to be done is nothing. The first thing to be said is nothing. This apparent double-talk needs to be explained. You have noticed a speaker come up to the platform to begin a long speech. The audience clears its throat and begins to settle down. What does the speaker do during this preliminary operation? Nothing. He wants that crowd to come to order. To do this, he just stands and waits. Presently the audience stops coughing and fidgeting. The speaker has brought it to order by doing nothing and saying nothing.

You face a large group of boys. They are talking and moving about. You want them to stop this and pay attention, so you just stand in silence. Before you say a word you are teaching them by example. You want silence; you show them silence. You want them to control their muscles; you show them control of muscles.

They are impressed more quickly by what they see than by what they hear. But talking comes easier to most of us than acting, so our first impulse is to talk when we want to tell the boys something without realizing that they will get our message more quickly if we act it for them.

Silence brings boys to order because it makes them curious. When a boy sees a man apparently about to speak or to do something, he gets curious. His mind wonders: 'What's he going to say?' or 'What's he going to do?' This question makes the boy forget what he wanted to talk about, and he automatically becomes silent. This motive of curiosity may not hold the boy for long, but it will be effective for a while. If all the boys in the group are moved by this same curiosity, you will have a silent group. As soon as you begin to talk, curiosity diminishes; but as long as you can keep them curious, you will keep them silent.

Silence is effective in that it conceals our ignorance. The boys look at a silent man and wonder what to expect next. The man is wondering about the same thing. He does not know what to say or to do. In this frame of mind, it would be a mistake for him to speak. If he gave an order it would surely be a wrong one. His only safety, therefore, is in silence. He will not say anything wrong which he may have to take back. He will not let himself give a wrong order, which later he will have to revoke. By displaying his ignorance, he will lose the respect of the boys. At that age they respect what they cannot know.

In a group of normal boys, the large majority are law-abiding and well disposed towards good order and the school authorities. A small minority are anti-law, anti-order and anti-everything. The strongest defence of this small minority is to remain hidden in the larger group. Exposed and segregated, they lose their power and their influence.

A most interesting phenomenon to watch is a group of boys protecting a law-breaker who is hidden among them. All their sympathy is

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for him. Their plans are to cover him and to frustrate the school authorities who are working hard to discover the culprit. This is all as it should be, but just let the culprit get caught! Everything changes. He has no friends now. His former protectors think he should get the maximum punishment. He has committed the unpardonable sin of getting caught, and the boys have disowned him. They are now on the side of law and order.

Therefore it is a mistake to look at a group of boys and think of them as one united enemy. They are not. In fact they are by instinct friendly, and you have no grievance against them as a group. Your problem is the small number hidden among them, those who wish to remain hidden and to swing the whole group their way. Unfortunately they can swing the whole group as long as they remain hidden. Your job is to pick out the trouble-makers, expose them and segregate them. So never talk to a roomful of boys who have arranged themselves according to their own plans. Any grouping they do will be for the safety and convenience of those who wish to hide. You begin by arranging them according to your plan. Group them as you please—according to size, age, or any system you like. Any arrangement will do, provided it is your arrangement, and not theirs. Then if there is any noise or disorder in a particular spot, you will be able to discover more easily and more quickly the source of the trouble.

However, do not talk to the fifty as if they were all your enemies. You have at least forty-five friends in the group. They are potential enemies, it is true, but they will not become actual enemies unless you do something to make them unite against you. Therefore, if you must give a harsh message to the hidden wrongdoers, never word it as if it were intended for the whole group. Then your forty-five friends are still on your side. You have not offended them. You have simply served a notice on a hidden wrongdoer. The boys are all for that.

You may not believe it, but the boys as a whole like to see things go according to order. They are annoyed by a wrongdoer. They do not want to tell him so, but they are glad when somebody else does. In their games, when they are playing without a referee, you may notice what an uproar they make when somebody does not play fair. He is spoiling the game for everybody. They are glad to have an alert official around, who will keep the unsporting and dishonest ones in order. So in all school life, the boys are secretly in sympathy with an alert and fair official of the school, although naturally they cannot tell him so.

If a man has any doubts about the principle that he must be absolutely fair in dealing with boys, he should never undertake to maintain discipline, for he will do no good. He will have a bad influence over them.

In all teacher-pupil arrangements, the boy is in the minority position. He will submit to direction from the teacher if he feels that the teacher will respect and protect his rights. Being outweighed and outnumbered

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is a position the boy will accept if he sees that he is treated fairly. That being established, he will have confidence in his teacher. But let the teacher use his position to push the boy around, or to advance some other boy just because he prefers him, then the boy who has suffered this injustice is through for good with this teacher. Everybody understands this. Labour agitators take advantage of an act of injustice when they want to get public sympathy for their strikes. They know the cry of 'unfairness' appeals to people.

What is fair and what is not fair? This question is settled for a boy by a kind of instinct. Without reading any laws on the subject, a boy instinctively labels a proposition as soon as he hears it as fair or unfair. No amount of talking will make him change his opinion. If you ask him why, he will probably not be able to tell you. A teacher will do well to respect that instinct, which remains in all of us to some degree. Over the years we have acquired a sense of the meaning of a law, its worth and weakness. We acquire skill in interpreting laws and we learn methods of circumventing them. In the rough and tumble of life, our aim is to remain orderly. Underneath it all, we preserve a sense of fairness. With a boy that sense of fairness is all he has. He has not yet become involved in legal technicalities. If things are fair and men are fair, life is good. Is not that, after all, our aim: to make life good for teacher and pupil, now and for the future?

F. BRITTO

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DISCIPLINE IN CAMP LIFE

Depends on Creating the Right Atmosphere

As THE CONCEPT of education broadens, we cannot restrict our teaching to classrooms. Outdoor educational activities are now occupying an ever-increasing place in school life. Of these activities educational camps, held for a week, a fortnight or more, are by far the most important. They are extremely rich in educational possibilities which, if properly exploited, offer great scope for building a child's character and for teaching him various subjects more effectively than can be done in the classroom.

A successful educational camp requires highly disciplined behaviour on the part of the teachers as well as the students. One may put up with a certain amount of indiscipline and irresponsible behaviour in the classroom without very serious consequences, but the situation is quite different when the pupils are out camping. Disciplined behaviour is the key to success in a school camp, and it would be worth while to consider some practical ways of maintaining discipline in an educational camp.

CONDITIONING THE PUPILS

The first of these ways is 'conditioning' the children for good discipline. Before the camp begins there should be discussion meetings of groups of students. At these meetings all the activities that are to be undertaken in the camp should be planned. The plans must of course be flexible since all the situations that may arise on the spot cannot be foreseen. Yet the pupils must have a definite idea about what they are going to do and what is expected of them. The 'why' and 'how' of the programme should also be discussed and understood by the students. This planning must be done in a most democratic manner and the pupils' suggestions should be given careful consideration. They should be made to feel that the plan is their own and is in no way an imposition or dictation from the teacher.

The problem of discipline and the need for maintaining it properly in the camp should also be discussed. Let the students understand in advance that the nature of discipline in camp life must be somewhat different from what it is in a classroom, since the risks involved in camp life are greater than in the school. Next, the group should be subdivided into smaller units and a leader elected for each unit. Then, of course, there should be one student leader to assist the teacher in charge.

These precautionary measures against disorder will go a long way in conditioning the students' minds for proper behaviour and will bring about a ready response in the activities of the camp.

THE ROLE OF THE TEACHER

The second important means of maintaining discipline in a camp is good behaviour on the part of the teachers themselves. There is ofte

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a feeling among teachers that discipline is something which the students owe to the teachers as subordinates to authority. They fail to realize that reciprocity plays a large part in the maintenance of good discipline. The students are sometimes cleverer in judging their teachers than are the teachers in judging their students. In a camp personal contacts are naturally closer, and while the teachers have an opportunity for observing their students closely, so have the students opportunities to make these observations about their teachers. Any hypocrisy, neglect of duty or inffieciency on the part of the teacher is soon discovered by the students and then the teacher merely gets what he deserves. Therefore, it is vitally important that the teacher be alert and conscientious about his own duties in the camp. He must also see that the programme drawn up is carried out as efficiently as the circumstances permit and that the full enjoyment to be derived from life in a camp is not impaired.

The next factor contributing to good discipline in a camp is 'consistency of behaviour values' on the part of the teacher. Most teachers will agree that it is seldom that students wantonly misbehave. Usually students seek approval and appreciation from their elders, particularly the teacher. Problems of discipline very often arise when the teacher is frequently inconsistent in his judgement of desirable behaviour. He often expects two opposites to function at the same time. For example, a teacher may on the one hand wish the students to maintain a high standard of cleanliness and order in and around their tents in the camp, but on the other hand he may not give sufficient time to perform these duties. Or take another instance. A teacher may give the following instructions to his students: 'Return from your excursion within an hour, study the place you visit carefully, and give me a detailed report.' This is bound to create conflict and give rise to disciplinary problems which may mar the smooth life at the camp.

Discipline and the Pleasures of Camp Life

The fourth essential condition for good discipline in a camp is that the pupils should be able to enjoy themselves and feel keenly interested in the activities provided. If the activities are not planned with these objectives in view, indiscipline is bound to creep in. To make the programme interesting the activities must suit the age of the children, and the teacher himself should be enthusiastic about them. But the opposite is also true. Not only is discipline dependent on interest, but interest is dependent on disciplined participation in the activity. This point must be brought home to the students because there seems to be a misunderstanding among some of them that enjoyment is commensurate with indiscipline. Through experience the children must be able to realize the truth, and if this is done half the battle is won. The students must see that in a thick jungle where they have gone for a botany lesson the teacher must, out of necessity, act as a dictator rather than a democratic head of the group.

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It is clear that the responsibility of the teacher is greatly increased in a camp, and this added responsibility must be balanced by an increased authority which has to be exercised at certain times. We have already mentioned that while planning activities the teacher should be as democratic as possible, and we may suggest that he should be equally democratic when the outing is being reviewed and judged at the end. But during the execution of the plan the students must obey the teacher and should not be allowed to protest if a situation, in the opinion of the teacher, demands an alteration in the schedule.

Evaluation of Work

A useful device for promoting a feeling of responsibility and disciplined behaviour among the students is to encourage them to evaluate their daily work collectively as well as individually. The group as well as each individual may keep a diary of the activities at camp wherein might be noted, briefly but honestly, the manner in which one has behaved and worked during the day. For the success of this device the teacher must convince his pupils that free and honest expression of the dark as well as the bright side of their behaviour would not prejudice the teacher's impression about them, nor would they be put to any disadvantage. Thus the students unconsciously learn to have full confidence in their teacher. The one maxim which should govern camp life, or even school life, is that no fault is greater than the virtue of its honest confession before one's teachers and friends. This is the key to the building of good character. Let the students feel that while the teacher is vigilant and is giving individual attention, he is not a censor, constantly spying and trying to pick holes in their behaviour.

Pupil-Teacher Relationships

This brings us to the last and the most important condition for securing good discipline among students. The foundation of discipline in a group is a good relationship between teacher and taught. Bad relations are bound to breed indiscipline.

The students must have faith in the ability, impartiality and goodwill of the teacher. The teacher on his part should be a beloved and trusted leader rather than a taskmaster. He can exercise authority over his students in proportion to the respect and confidence that he enjoys from them. To gain this respect and confidence the teacher should try to deserve it. He should always respect the personality of his pupils, and work intelligently for their progress.

When the aboye conditions are fulfilled, a healthy disciplinary atmosphere is created which makes it easy for all those who are living in the camp to work and play together.

Dayal Chandra Soni

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BOOK REVIEWS

DAVID FLETCHER, RUTH BAKEWELL and N. K. ROBERTSON: *Quick and Legible Handwriting* (Oliver & Boyd, 1958), $9\frac{3}{4}'' \times 7\frac{1}{2}''$; Bks. I, II and III, pp. 32, *1s. 6d.* each; Teacher's Manual, pp. 36, *3s. 6d.*

Handwriting is one of the sadly neglected subjects in our schools today. All subjects in the school curriculum have, at some time or other, been given attention and steady progress has been made in technique and method. Yet when a child leaves school he does not follow up many of these subjects. Handwriting is something that he takes with him to the end of his life, and a firm, legible hand is a great asset.

It is with gratitude, therefore, that schools should look to this new series of books which aims at teaching pupils the cursive script in a systematic way.

One of the main reasons why the handwriting of school children is bad is that the teacher has not considered the matter important and has not paid due attention to it. Also, during the early years of school life, when the child's handwriting is being developed, directions regarding his writing come from three or four different teachers who either have no ideas at all on the teaching of handwriting, or whose ideas differ so widely that the pupil does not get an opportunity to develop his writing under a uniform set of techniques. Here the *Teacher's Manual* in this series is an excellent aid. Actually this is a more important book than the other books in the series.

The pupils' books, of which there will eventually be five are meant to cover the infant and junior stages of a pupil's life. Book I is devoted entirely to tracing over basic patterns and shapes which are developed out of a normal child's pre-writing scribble. The meaningful sentence is introduced very early in Book II. This is a departure from the conventional copywriting book of old. Book II also aims at 'grooving' children into using pleasing letter shapes. At the same time it gives children the experience of achievement and of being able to write meaningful sentences expressing simple ideas such as, 'I can run', 'Today is my birthday'.

In Book III the ground already covered is thoroughly revised and practice given in using more involved but still simple sentences, and the children are ready to use a template as a writing guide.

An important development that has taken place in this field recently is the increased emphasis that is being placed on allowing children to write freely rather than restricting their efforts to copy work or simple reproduction. After a long period of observation and experiment it was found that a modified form of the Italic or Traditional type is the best means of meeting modern requirements.

At a first glance the script utilized in this book appears a little unusual to the eye. Yet there are very few letters, one feels, that could be interpreted in a better way, for instance the letter 'e'. It is first made like a 'c' and a half stroke makes it into an 'e'. The joining of the 'e' to any other letter is also unusual, and one feels it is rather more difficult than the conventional way of forming the letter with another. Then there are other letters that are expected to be disjointed, such as 'g', 's', and 'q'. These could be changed and joined in order to give perfect continuity, to facilitate and increase the speed of a running hand. The 'Q' is also rather unusual and perhaps a difficult shape for the child to master.

But these can hardly be called defects. The books are well produced, pleasing to the eye from the point of view of the child, and should be fully exploited by the teacher. The step-by-step method and the detailed instructions at the beginning of every book are most valuable, and no teacher could possibly go wrong by following these techniques. The books should be introduced in every school where English is taught.

* * * *

AUSTIN A. DE SOUZA: *Aspects of Education in India and Abroad* (Orient Longmans, 1958), Crown 8vo, pp. xiv+220, Rs 6.25.

This comparative study of education in India and abroad is the result of Mr Austin De Souza's recent visit to Europe. It shows a close observation of the latest educational developments in England and Denmark, and a patriotic desire to improve

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Indian education in the light of the progress made in these countries. He approaches the subject with great modesty and caution, and is broadminded in diagnosing our educational ills and prescribing for them.

After describing our Five-Year Plans and complaining, as all educationists do, that their share has been unduly curtailed, Mr De Souza proceeds to examine primary education in six chapters. Nursery, infant and junior schools are all dealt with, both in urban and rural areas, their defects are pointed out and remedies suggested.

The nursery school is a luxury in a country which has still a long way to go towards universal primary education for even the six to twelve age-group; but modern child psychology has proved that education begins much earlier than was formerly believed and that pre-primary education is probably more decisive than education at any other stage. In this chapter on nursery education, though Sir George Newman is mentioned and Dr Susan Isaacs quoted, one looks in vain for the name of Dr Maria Montessori who has done more than anyone else to 'discover the child' and bring out his latent aptitudes in a carefully arranged environment. Mr De Souza rightly laughs at the glib slogan that 'anyone can teach babies': the training of a Montessori teacher of children from two to six years old is more rigorous than that of a graduate in a training college for secondary school teachers.

Chapters VII and VIII deal with the teacher and his profession. These are the core of the book: here the author shows both theoretical and practical awareness of the needs of our country, and discusses both academic and administrative (mainly financial) problems connected with the choice and training of teachers if they are to fulfil worthily their complex and difficult vocation. One wishes he had emphasized that, whatever pay or prospects we may offer a teacher, his is essentially a call to self-sacrifice, and that only the noblest and most generous souls are fit for this financially unrewarding and therefore dangerous occupation.

In his inaugural address to the All-India Educational Conference in 1956, Dr Rajendra Prasad deplored the loss in modern schools of that vital relationship which existed in ancient India between the teacher and his pupils; and added: 'Today human relationships in our educational institutions have become mechanical and commercial.' Mr De Souza also quotes Sir John Adams as calling modern teachers 'information-mongers', and modern schools 'knowledge-shops'. No commissions, committees or grants-in-aid will cure these ills as long as the best men and women remain out of the teaching profession. As the author says, 'the prestige of education as a whole must be raised through the press, cinema and radio'—and, may one add, through the example of those who could have easily shone in the administrative service or in commerce, but who have voluntarily taken up the humble career of teaching.

Chapters IX-XIV are devoted to secondary education. The Sargent Report and the Report of the Secondary Education Commission are here analysed to show how far their recommendations have been put into practice. The multipurpose or multilateral school, which has to some extent been modelled on the English comprehensive school, has advantages and disadvantages which Mr De Souza impartially examines. In England, he admits, 'the issue at present is clouded . . . by socio-political considerations'. What shall we say of India where education and even religion are not only clouded but obscured by political and communal passion!

Chapter XII deals with rural education and cites the Folk Schools of Denmark as models on which we could reform ours. Mr De Souza traces the history of what is now called Basic education, from Gandhiji's first scheme at Wardha, through its various adaptations and changes at the hands of the Zakir Husain Committee and of the successive planning bodies both at the Centre and in the States.

The last seven chapters deal with adult education, technical education, and what may briefly be called international education. The author describes adult schools in Denmark and in England and prescribes similar arrangements in India. The essential difference between the Indian adult and the European is that the former has never had primary education in his childhood on which adult education may

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afterwards be superimposed by studying in night-schools; for him it is not a continuation but a beginning, which requires more time and labour. Dr Frank Laubach has realized the dimensions of the problem in the Philippines and in some parts of India: if any success is to be achieved in educating our country's adults, it must be through some such method as he has worked out.

Finally, internationalism is certainly a desirable attitude in every child and adult. Mr De Souza correctly points out that 'there is no opposition between a sane and healthy nationalism and a genuinely international outlook'. Here the adjectives and adverb are most important, for international communism now patronizes nationalism in undeveloped countries, while a narrow nationalism (or a still narrower linguism or communalism) hides behind an international organization for support and prestige. Tagore's Visva Bharati and Herr Manniche's International People's College at Elsinore are beautiful attempts at attaining an ideal.

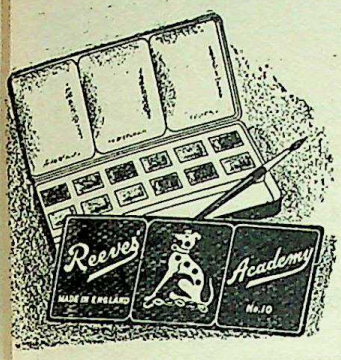
As Mr N. K. Siddanta, Vice-Chancellor of Calcutta University, says in his Foreword, Mr De Souza has covered a wide field, even without touching university education at all. Perhaps the effect would have been greater if he had compared Indian and foreign education at every step and in every chapter: this would also have avoided repetition and reduced the length of the book. The absence of a bibliography or an index is regrettable in a book of this kind.

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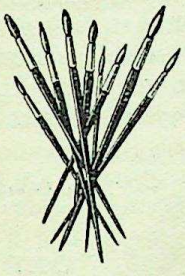


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FOR TEACHERS



JUNE 1959

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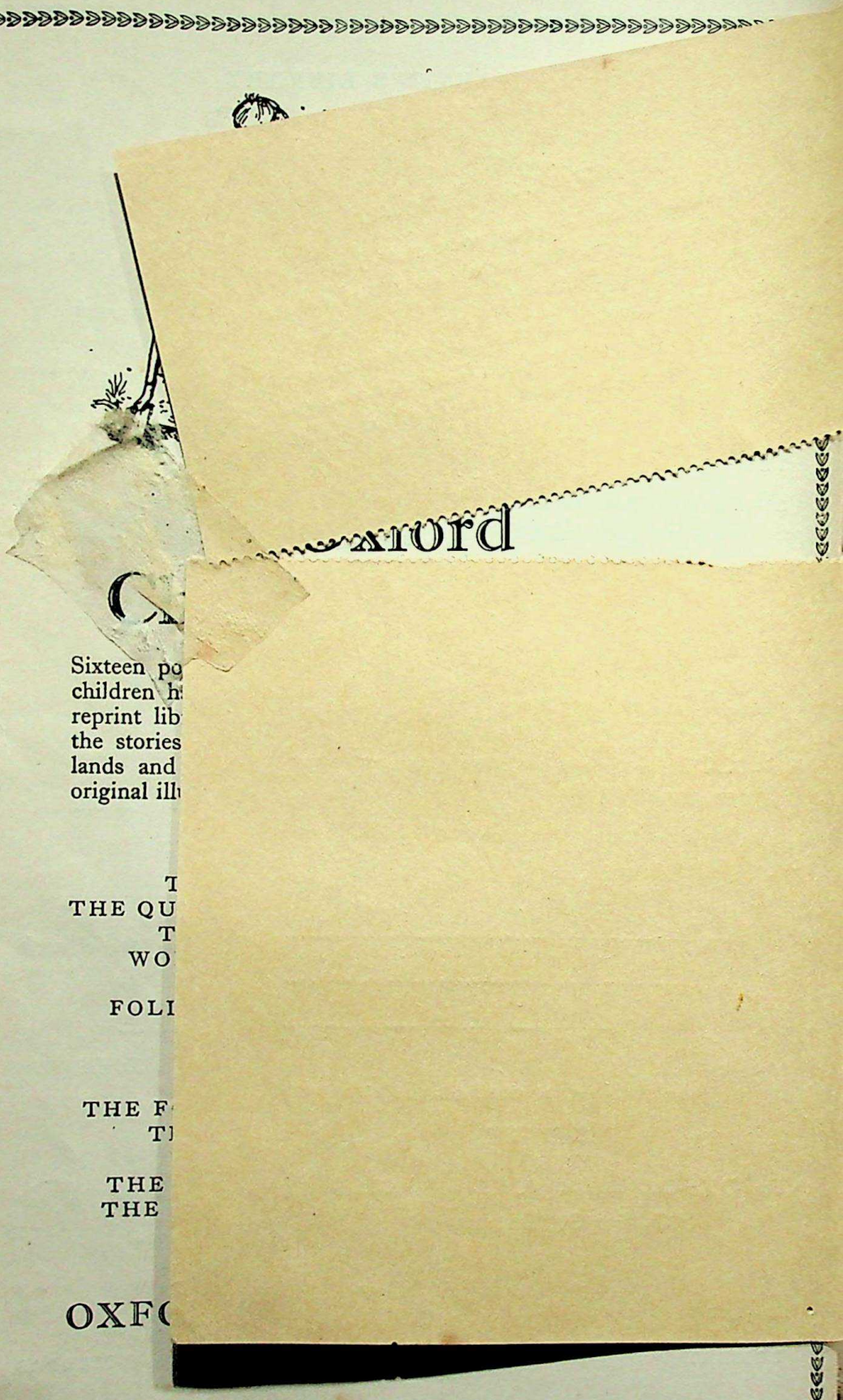
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TEACHING

A QUARTERLY TECHNICAL JOURNAL FOR TEACHERS

Editor: MARGARET BENJAMIN

VOL. XXXI JUNE 1959 No 4

EDITORIAL

THE September issue of *Teaching* will be a special one on Classroom Technique. Some aspects of this subject suggested as matters for discussion are: (1) the classroom—its design, decoration and seating arrangements; (2) the blackboard and other equipment, such as storing cupboards, etc.; (3) voice production and control, delivery, gestures and mannerisms; (4) the Model Lesson: introduction, illustrations, questions and the interest curve; (5) problems of classroom discipline; (6) play way methods to promote interest and discipline; (7) tests and examinations; (8) library periods; (9) training prefects and monitors in leadership and responsibility; (10) group methods for advanced and backward children; (11) teaching from the textbook.

Contributions will be welcome on any of these topics or others connected with the subject of Classroom Technique.

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MAKING FILMSTRIPS AND FILMS

An Urgent Need in India

WHILE we are most concerned with *using* visual aids it is not out of place to discuss making them; but, because the technical processes are complex, our treatment of the subject-matter must be brief. It possesses two aspects, the photographic and the educational, and it is on the happy union of these two that the production of good filmstrips and films depends. In England many excellent films and filmstrips have been made by school-teachers and, despite various handicaps, there is no reason why the same should not be done in India and Ceylon. In any case there will be an increasing call, in these countries, for help from teachers in guiding commercial and official production of educational films. If this guidance is to be adequate the teachers concerned must have some knowledge of production. This article is therefore devoted to an extremely simple description of how to make filmstrips and films by photographic methods.

First it is necessary to understand, in outline, the photographic process. Basically, and in much over-simplified terms, this depends upon the fact that if certain salts of silver are exposed to light and then treated with certain chemicals they are reduced to metallic silver. By having the sensitive silver salts on a plain surface (in film or on a plate) and allowing an image to be formed on this with a lens we can finally get an image in silver grains on our plate. In order to prevent unwanted light from affecting the film we enclose it in a box (the camera) with the lens mounted on its front. In order to control the amount of light reaching the film we use a shutter. And, for various reasons, we treat the film in particular ways. We might tabulate and further explain the process in the following way:

THE PHOTOGRAPHIC PROCESS

Stage	*Apparatus*	*Method*	*Purpose*
1. Exposure	Camera and film	With shutter	To form latent image in the sensitive silver salts by action of light.
2. Development	Dish or tank in the dark	Chemical action of developer brings about reduction to silver of those salts which have been exposed to light.	To change latent image to a silver image which is a *negative*; e.g. white clothes appear black.
3. Fixation	Dish or tank in the dark	Dissolving action of hypo (sodium thiosulphite).	To remove all silver salts which have not been reduced.
4. Washing	Dish in sink in light if convenient	Washing in running water or several changes of still water.	To remove all traces of hypo.
5. Drying	Clips	Hang up in dust-free air.	To harden film by removing water.
6. Printing	Printing frame or box	Exposure to light, development, fixation and washing.	To produce final positive print on paper.

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With this brief guide to the process we now must note how it is adapted to the making of filmstrips.

The *camera* must either be made to use 35 mm. film or adapted to do so. A simple box camera of V.P.K. size could be used, but a more elaborate folding camera is preferable.

The *film* used should be a fine-grained panchromatic type. These are available for 35 mm. cameras in lengths of $5\frac{1}{4}$ feet, giving 36 exposines, each 36×24 mm.—known as 'double frame' size.

The *developer* should be of fine-grain type. A suitable formula is Kodak DK 25, made up as follows:

Metol	7.5 grammes
Sodium sulphite (anhydrous)	100.0 ,,
Sodium bisulphite	15.0 ,,
Water	1000 c.cs.

A special developing tank is needed, but short lengths can be developed in a jam jar.

If no dark room is available, work at night with curtains drawn so that *no* light can enter the room. If this has to be done, desensitize the film after removal from the camera by placing for two minutes in the following solution: Pinacriptol green—one part in 20,000 of water.

A portable dark box can be made from wood with holes for the hands through which light cannot enter because each hole is protected by a sleeve or tube of cloth through which the arm passes. All operations are carried out in the box. Details of this method and of all other aspects of filmstrip making are adequately described in reference books of which some are written specially for teachers. Use an acid-hardening fixing solution made as follows:

Hypo	300 grammes
Potassium metabisulphite	25 ,,
Chrome alum	12.5 ,,
Water	1000 c.cs.

Leave the film in the hypo until all creamy colour has gone, and then give another five minutes.

The *printing process* is modified because we need, not an opaque print, but a 'transparency' which can be used in the lantern. Instead of using printing paper we use slow positive film such as Kodak Microfile or Ilford Microneg. The makers give instructions as to development.

The time of exposure must be found by experiment, but with a normal negative six feet away from a 60-watt bulb it will be about half a second.

The transparency is made by putting a piece of unexposed positive film under the negative, with the two emulsion surfaces in contact. Single exposures are made by cutting off a short length of film and using a small printing frame. A strip is printed with a long narrow frame, as shown in Fig. 1, which will accommodate twelve pictures. The frame consists of a base plate 20 inches long to which two narrow

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strips are glued, leaving the space between them wide enough to accommodate the 35 mm. film (i.e. just over 35 mm. wide.) The positive film is placed in this trough, emulsion side up; next the negative is

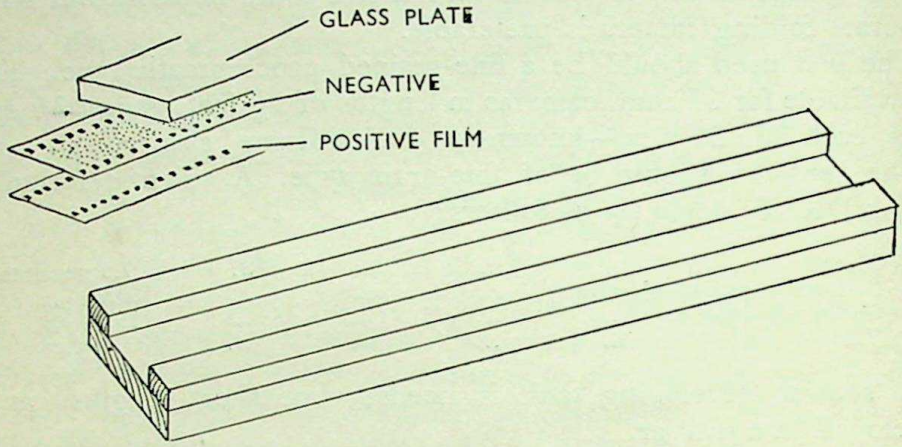


Fig. 1. A simple printing frame for 35 mm. film.

introduced with the emulsion downwards, and finally the glass cover plate. To ensure complete contact between the film surfaces elastic bands or clips are used at each end of the frame, with the precaution that they do not interfere with the two end pictures. For longer strips a mechanical printing box is desirable.

The *positive transparency* can be used in strip form or mounted as miniature slides. There is no need to use glass for this as it adds to the cost, though it does protect the film. In the tropics it is inadvisable to use glass because fungus spores easily infect the film and the fungus cannot be removed without taking the slide to pieces. Instead use one of the following three methods:

1. Hinge together with flexible binding tape two pieces of glass each 50 mm. square. Mask one with black paper to leave a central aperture 36 × 24 mm. Use this as a temporary holder for single transparencies.

2. Cardboard, which will not require masking, can be used. Cut two squares with 50 mm. sides, and cut a central aperture 36×24 mm. in each. Place the film between them and bind the edges.

3. Cut 50 mm. squares of cardboard each with a central aperture 36 × 24 mm. Make a permanent mount of each single exposure in the following way:

(*i*) Lay one cardboard square flat on a table.

(*ii*) Paint its upper surface with a thin layer of a quick-drying cellulose glue which can be bought in tubes.

(*iii*) Lay the transparency in position centrally over the aperture.

(*iv*) Paint another cardboard square with cellulose glue and lay in register on the top.

(*v*) Leave under slight pressure until dry.

(*vi*) Paint a layer of thicker glue round the edges of the slide.

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(*vii*) Print the title of the picture on one side of the slide and add two black spots on this side near the top edge with the picture upright.

The picture has now been 'sandwiched' between two pieces of cardboard and makes a permanent slide which can be handled by the edges to avoid leaving finger marks on the film surfaces. The chief advantages of this method are ease and cheapness of the process, protection, and the possibility of sorting the slides into any required order.

If pictures are arranged in sets of six all relating to one topic and if these have been printed in the correct order on a length of film, this can be mounted, as above, but using larger cardboard frames.

All slides should be stored in boxes to protect them from dirt and damage. The most convenient storage box has racks down the sides into which the slides are inserted in a vertical position.

The Camera

We must consider in greater detail the camera and the various points which are important if it is to be used successfully for 35 mm. work.

Adaptation to use 35 mm. film. Some cameras are built to use 35 mm. perforated film, others use film of this width which is not perforated, while the most commonly used cameras use film of greater width, usually $1\frac{7}{8}$ or $2\frac{1}{2}$ inches. The first two types require no adaptation. The third type can be adapted by various means which have been described in many books. The beginner is advised to use the simplest method, which is probably as described below.

(*i*) Obtain two empty film spools. Measure the width between the ends or note the width of the film in millimetres. From this subtract 35 mm. to get a difference which must be divided by two. This last value shows what has to be added to each end of the spool in order to build it up to accommodate neatly the 35 mm. film we wish to use. Let this width be x mm. on each side.

Cut two long strips of paper x mm. wide. Using a hard-drying glue, build up the ends of the spools by rolling the paper round the core in a spiral so that a thick disc is built up at each end. When dry we now have two spools which will fit the camera but will take 35 mm. film. (See Fig. 2.)

(*ii*) The next problem is picture size. Open the back of the camera and from hard, thin cardboard cut a mask which fits it exactly; then, in the centre of this mask, cut an aperture 36×24 mm. Paint both sides of the mask with indian ink or black paint and fix the mask in position by

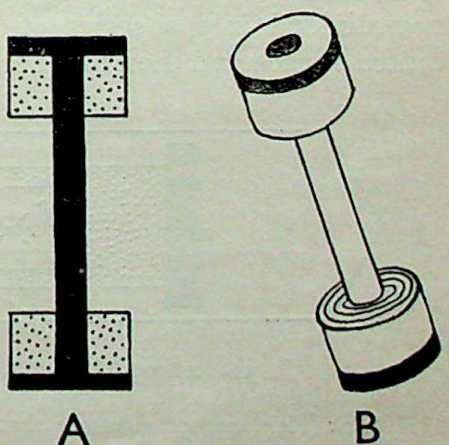


Fig. 2. Adapting a larger spool for 35 mm. film.

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any convenient method. The camera will now hold film of a new width and take pictures of the required size.

Fig. 3 illustrates this. A is the mask (cross-hatched, with a heavy line round the edges); B is the outline of the 35 mm. film centred by the adapted spools (not shown). C is the new picture aperture 36×24 mm. D is the original picture aperture, shown by a dotted line.

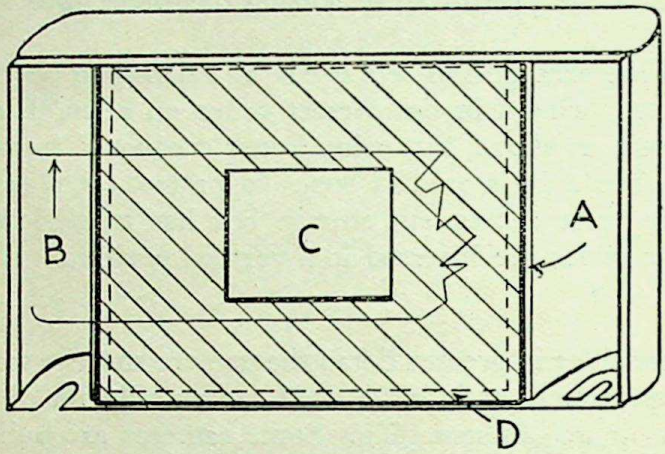


Fig. 3. Adapting a camera back for 35 mm. film.

(*iii*) Take a complete length of the red (or green) backing paper which is wound on the original spools and cut it down its length, making it 35 mm. wide. This must be exact and neat.

(*iv*) Wind 2 or 3 inches of this strip on to a spool and mark the paper where it winds on to the spool. Then lay it out flat on a table with the black surface downwards. On the upper red side are the numbers used in winding on the film from picture to picture on the original size. As we have altered the picture size we must also alter the numbering. This is done as follows: from the line drawn on the paper measure back an inch and draw a line across the paper. From there measure back 40 mm. and draw another line and proceed in the same manner until within 4 inches of the end of the paper, which is now divided into a series of rectangles. Draw diagonals to find the centre of each and then number in sequence from 1 onwards (see Fig. 4).

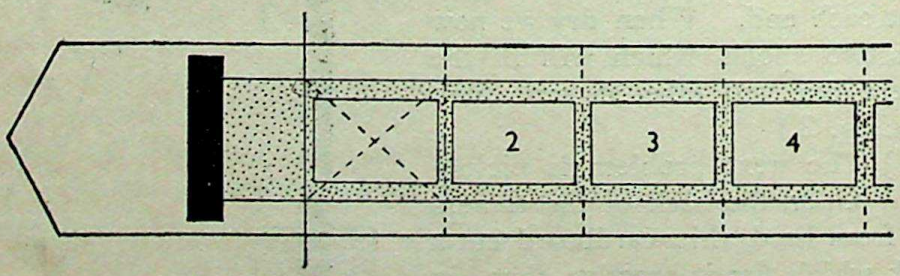


Fig. 4. Renumbering backing paper for 35 mm. film.

NOTE: This method assumes that the red window is in the middle of the camera back. If it is not, the position of the new serial numbers must be so altered that they are visible in the window. Wherever the numbers are each should be preceded by a row of warning dots.

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Loading the spool must be done in the dark. Pin out the paper backing, black side up on the bench, and mark the position of frame 1 or its limit by a pin in the desk so that it can be located in the dark. Have pieces of surgical adhesive tape 1 inch long ready at hand, one near the pin and the other at the far end of the paper. Switch off the light, open a tin of unexposed film and, with the adhesive tape, attach it, emulsion upwards, to the roll of backing paper. Roll out the film towards the other end of the paper, cut it off about 4 inches from the end of the backing paper and attach with the other adhesive strip. Now roll the backing paper and film up on to the spool so that exposure No. 1 comes on the outer end. The roll can be inserted in the camera at once or stuck with adhesive tape until required.

Making the Filmstrip

A filmstrip will usually contain some pictorial matter, some diagrams and some printed matter. Into the questions of selection and arrangement of the matter we shall go later; here we are concerned with the more technical aspects of production. The general method used in professional work is to: (*i*) assemble the pictorial matter; (*ii*) prepare the diagrams; (*iii*) prepare the text matter. All of this material is made to a convenient standard size, which for 36×24 mm. frames could be 12″×8″. The diagrams and text matter are drawn on cards of the size given, while the pictures can be either enlargements or artist's originals.

(*iv*) Arrange all the material in the correct order and label each from 1 to the end of the series, with 1 on top. (*v*) Now photograph them, one after another in order. (*vi*) Develop, fix and wash to produce a master negative. (*vii*) Print positive copies from this master strip as required.

The task of the amateur is to adapt this process to his purpose in a way which demands the minimum of expense, time, skill and materials. There are many ways of doing this and experience suggests that the following points should be noted:

(*i*) The amount of photography should be minimized.

(*ii*) Amateur strips should be either all pictorial or all diagram, plus text if possible, rather than a mixture of both.

(*iii*) If the strip is all pictorial it can be made by contact printing direct, and in appropriate order, from the original negatives if these are in 35 mm. film.

(*iv*) If the strip is all diagram and text it can be made by a single photographic process by drawing the diagrams and printing the text with a bold white chalk line on a good blackboard evenly lighted. Each frame can be done and photographed and rubbed off in order to draw and photograph the second one, and so on. When projected, the diagrams will show as black lines on a white background.

(*v*) Where pictorials, diagrams and text have to be mixed in a film one can copy the professional and prepare them as enlargements,

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drawings and printed texts all to a standard size of 12″×8″. This involves a maximum amount of photography.

Close-ups

To photograph something only 12″×8″ with an ordinary folding camera presents a problem, as such cameras usually do not focus objects nearer than 3 feet—at which distance the image is rather small. It can be enlarged on the film by using a supplementary or 'close-up' lens. For some cameras 'portrait' attachments can be bought. For others one need merely put a spectacle lens in front of the camera lens and observe the following five points:

1. Choose a spectacle lens of suitable focal length—about 30 cm. is suggested as a trial.
2. Place this in front of the camera lens and hold it in place with three small dabs of plasticine or a bit of adhesive tape.
3. Set the camera focusing at the 'infinity' mark on the scale.
4. Place the object to be photographed in front of the lens at a distance equal to the focal length of the spectacle lens—in the case suggested this was 30 cm.
5. Check the accuracy of the focusing as follows:

(*i*) Open the back of the camera (no film should be in it for this trial).

(*ii*) Place a piece of tracing-paper flat against the picture aperture cut in the mask.

(*iii*) Shade the tracing-paper, which acts as a focusing screen, from side light.

(*iv*) Check the focus of the image on this focusing screen.

(*v*) Should the image not be in sharp focus, move the object (enlargement or the line drawing, etc.) nearer to or further from the camera until sharp focus is obtained.

(*vi*) Measure the distance from object to lens and make a note of it. In future work set up the camera with the supplementary lens and the object at the distance found by the above check. The picture will then always be in focus. Note also these three important points in copying:

1. Even lighting of the object is essential.
2. The iris diaphragm should be closed down to decrease the aperture through which light passes, thus increasing the depth of focus.
3. The correct exposure must be found by a few experiments.

The preceding notes on the photographic side of filmstrip making are exceedingly brief and they describe only the most elementary points and methods. However, they are enough to act as a guide to getting results, and a little experience will soon overcome any problems which arise. Before leaving this aspect, one more technical method may be described.

When the film which has been exposed in the camera is developed the result is a negative. The production of the positive transparency

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requires the further photographic process of printing. The question arises as to whether the film could not be directly developed as a positive, thus cutting a whole laborious stage. This possibility, known as direct-reversal, is the basis of amateur cine-film making. Although there are few films available specially made for this process it can be done with many films which are normally used to produce negatives.

For the amateur it is preferable to use a reversible film, such as Gevaert 'Dia-Direct' 36 mm. film. The makers give full instructions for its use. This film has to be processed by the makers or their agents.

The Educational Side

We now turn to the educational side of making a filmstrip. First we must be clear about what we want it for. The simplest answer to that is that we need pictures and diagrams for the following purposes :

(*i*) To give a visual sense of reality to what we talk and read about, which is otherwise completely verbal (because our books have so few pictures).

(*ii*) To give concrete form to abstract ideas.

(*iii*) To give background material, which will add meaning or give a direction or orientation to the pupils' thinking.

(*iv*) To analyse complex situations into their simpler components.

(*v*) To synthesize situations, facts and ideas into new relationships.

(*vi*) To give stage-by-stage demonstrations of processes.

(*vii*) To provide a quick epitome, an over-all view, either for an introduction or as a summary.

(*viii*) To arouse interest by introducing new material which will catch attention and lead to more effort and better learning.

Many writers have made lists of objectives like the one above and have then proceeded to lay down some rules for filmstrip making—but no one has ever made up a set of golden rules which will inevitably please and always achieve success. Nearly everyone has his own recipe for success—and the recipes vary a great deal, and those who have made them all stick by their own. There are, however, a few points about which one can feel some degree of certainty—if one has enough experience of teaching with visual aids. They are as follows :

(*i*) Don't have a long strip with too many pictures—they are as mentally indigestible as too many words.

(*ii*) If you have bought a commercial strip with 30, 40 or 50 pictures, don't assume that they must all be looked at on a single occasion.

(*iii*) If your subject needs a lot of pictures, arrange them in groups each devoted to one aspect of the subject—and deal with them group by group.

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(*iv*) If you make your own strip, try to 'zone' it as follows:

(*a*) Introductory zone—a few key pictures of each main stage arranged at the beginning of the strip as an over-all introduction.

(*b*) Second zone, dealing with Stage One in, say, a group of six pictures of which the first is the 'key' to the group.

(*c*) Third zone: Stage Two, with a key picture.

(*d*) Fourth, fifth, etc., zones.

(*e*) Last zone, a brief recapitulation by a set of key pictures, but preferably not exactly the same as those already used.

(*v*) Make short strips when possible—they do not overload the pupil and are more easily handled in amateur production. Each of the zones referred to above could be dealt with on a short strip.

(*vi*) Diagrams should be boldly drawn with clear lines and the lettering should be easily read from the back of the class.

(*vii*) If any frames consists only of printed verbal matter be sure that it is of minimal amount, easily understood and clearly visible.

(*viii*) Remember that for some purposes a whole collection of pictures may be necessary as a sort of library or reference volume—and do not hesitate to make such a collection—but do not try to force an artificial pattern on it.

Probably the best way to help a beginner to plan a filmstrip is to take two examples and work them out—for instance the following:

(*a*) A strip to trace a process stage-by-stage from start to finish—e.g., making a model.

(*b*) A strip to extend understanding of conditions quite outside experience—e.g., showing an Indian child what Arctic life is like.

In (*a*) the first of our examples, we have a straight-forward case of following a process step by step in order to show how it is done. The order of events is dictated by the subject and by the mechanical processes involved. The only control we may need to exert is to decide that, because special difficulties arise at certain points, we ought to give these a heavier emphasis than others. We should also note a very important point which has reference to every learning situation. As teachers, in virtue of our skills, knowledge and maturity, we can get an over-all picture of a process as a whole, which is denied to our pupils who are immature. Even if we are only given bits of the process, one by one, we can construct for ourselves some conception of the whole. Not so the pupil; if we give him a bit only, or if we go stage by stage through a process, he may get no over-all view until the end. He has not been able to anticipate, to see the relations of one step to another, nor to appreciate that there is a logic of dependence in the order of events—that until a particular step has been dealt with some other operation cannot be performed. This is not merely a point to notice in making a filmstrip, it is also a step in good teaching and, with this in mind, we can now turn to actual details.

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As our example we take the preparation of a very simple filmstrip which shows how to make a simple model boat—a model which would be of considerable interest to boys and girls, and which is made from simple materials by processes requiring little skill. The steps in making the filmstrip could be adapted to any similar job, such as making a model house, an electric motor, a model of a cart, and so on.

First we need to decide how our material is to be disposed between the filmstrip and an explanatory note. Let us start with the latter, which might well be arranged as shown below.

1. *The explanatory or teaching note*

(*i*) Short description of the model as representing a particular type used for fishing, etc.

(*ii*) List of tools required.

(*iii*) List of materials required.

(*iv*) Order in which work is to be done: cut out bottom of hull and keel; cut out sides and deck; make mast and sail; assembly; painting.

(*v*) Points which require special attention: getting the various angles correct; setting up the frames; stepping the mast; marking the water-line; getting a good finish on the paint; hints on sailing the model.

(*vi*) Working plan.

(*vii*) Frame-by-frame comment on the strip.

2. *The filmstrip*

It may be useful to remind ourselves here of certain basic points:

(*i*) Our pictures need not, and perhaps cannot deal with everything in a process. We must select the most profitable minimum.

(*ii*) We should illustrate only that which needs explanation, analysis, etc.

(*iii*) We can make use of many devices to help us, apart from pure representation.

(*iv*) We must seek a happy union of the logic of method and of understanding.

Therefore we should at once make certain decisions:

(*a*) We do not need to illustrate materials and tools in this case—though for other processes it might be necessary.

(*b*) We must give, at once, some clear understanding of the whole.

(*c*) We cannot use a filmstrip to present a detailed working drawing for use at the bench.

An appropriate layout for our strip would then appear to be:

	Frame No.	*Content*	*Purpose*
PART 1	1	View of complete model.	Arouse interest. Give general idea.
To gain general idea of whole scheme.	2	Diagram of 'exploded model'.	Appreciation of the relations of part to the whole.
	3	Diagram of separate parts of hull in plan views.	Appreciation of relation of parts to each other.

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	Frame No.	*Content*	*Purpose*
PART 2	4	Assembly: (*i*) bottom and keel with mast heel step.	
To gain idea of work sequence.	5	Assembly: (*ii*) ditto plus bow, stern and sections.	To show how the sequence of assembly depends upon the logic of structure.
	6	Assembly: (*iii*) ditto plus deck rudder and mast.	
	7	Assembly: (*iv*) ditto plus sail and rigging.	
PART 3	8	Marking out bottom of hull.	To show method which can be adapted for subsequent use with other parts, e.g. deck.
Dealing with special points.	9	Cutting out bottom of hull.	To show how careful cutting can reduce later work.
	10	Methods of testing bevel and angles.	To get accuracy in hull form.
	11	Method of bending hull sides into position.	To overcome a difficulty without a special cramp.
	12	Fastening deck into position.	To obtain a watertight joint.
	13	Screwing deck with screws at an angle.	,,
PART 4	14	Drawing covering board, planking.	To get neat lines, etc. at proper place.
Finishing the model.	15	Finishing hull with paint.	,,
	16	Making the mast.	Making a circular mast from a square.
	17	Making the sail.	Pattern and sewing.
PART 5	18	Diagram of sailing.	To get a general idea of sailing points.
Sailing the model.	19	'Running' before wind.	To illustrate the points of sailing.
	20	'Reaching' across wind.	,,
	21	'Beating' to windward.	,,

This scheme, in general terms, could be adapted to many other topics. Making a model relief map of the neighbourhood, teaching the stages in a dissection, showing how to blow a T piece in glass or demonstrating a simple scientific experiment are examples which require simple serial treatment—with that degree of modification of order and arrangement which will give real understanding.

Having worked out the content of the strip we are now left with two jobs: the practical task of making the illustrative material, and the photographic process. In our example it would be possible to use nothing but drawings—if we are able to make them—and if we could do so the whole process could be done on a blackboard. It would probably be better to use diagrams and photographs.

Secondly we take a different type of problem, showing the pupil something which is quite outside his own direct experience, such as how people live in the Arctic. A problem of this kind is too often handled as though it was not a problem, but a mere piece of visual description. The visual description should be thought of as the answer to a problem and we must make it our job to set the problem. To do this we have at our disposal three things—discussion, reading matter and the filmstrip. It is a nice point to decide at what stage one uses these and in what order. Discussion cannot profitably be engaged in

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unless one has something to talk about and think about. In the case we have postulated we must therefore either provide descriptive talk ourselves, or provide reading materials or visual materials. We could therefore make a filmstrip and use it as our starting point—and at once we come into the practical problem of getting the materials. Obviously we must, in the majority of such examples, rely upon pictorial material cut out from magazines or copied from books—our first step must be to ensure that such sources are available to us. If such materials are not available—and if we have knowledge and skill—we can make drawings on the blackboard or on paper and photograph these. However, our concern here is with the question of the content of the strip rather than with the technique of its preparation.

It would seem appropriate to work along such a line as follows—noting that we must take the known and already experienced as a step towards the unknown. First we decide what are the major problems, e.g.:

1. Where is the Arctic region?
2. What are its characteristics?
3. What does it look like?
4. What special problems does it set for those who live there?
5. What peoples live in the Arctic?

These five major questions might be used to form the main parts of our filmstrip. Our next problem would then be that of deciding how to illustrate each—remembering that we can make use of explanatory notes, description and discussion and visual material. Let us now take our sections:

	Questions	*Frame*	*Content*
PART 1	Where is the Arctic? ...	1	Arctic seen on globe from equatorial position.
		2	Arctic seen in plan from polar position.
PART 2	What are its characteristics?		
	Temperature ...	3	Isotherms.
	Seasons ...	4	Long winter, short days.
		5	Short summer, long days.
PART 3	What does it look like? ...	6	Taiga.
		7	Tundra.
		8	Snowscapes.
		9	Sea ice.
PART 4	What special problems does it set?		
	Shelter ...	10	Igloo.
		11	Summer hut.
	Food ...	12	Sealing.
		13	Fishing.
	Clothing ...	14	Skins.
	Transport ...	15	*Pulka* and reindeer.
		16	Sledge and dog team.
		17	*Kayak*.
		18	*Umiak*.
	Heating ...	19	Drift-wood fire.
	Lighting ...	20	Oil lamps.

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Questions		*Frame*	*Content*
Shortage of materials	...	21	Bone arrow-head, harpoon, fish-hooks.
		22	Glass and flint collected on beaches and used for knives and scrapers.
PART 5 What people live there?			
Distribution	...	23	Map.
Types of people	...	24	Eskimo.
		25	Polar Indians.
		26	Lapps.
Modern immigrants	...	27	Siberian.

It is not suggested that this is an ideal strip; in fact it reflects what the writer found available when he wanted to tell tropical children something about an entirely different kind of life. But at least it suggests a way of approach and a method which can be used to seek a better solution to the same problem or be adapted to some other situation.

With the foregoing examples as a guide the beginner should be able to tackle the production of filmstrips of different kinds. Lack of technical resources will probably mean that only simple work can be undertaken, but this is in many ways an advantage. In any case simplicity should be aimed at, for an overloaded, complex strip will do little beyond overloading the pupil. For very many purposes six or even four frames will provide material for a whole lesson—even more sometimes.

Before leaving the filmstrip there are a few other points to be noticed. Many teachers, however willing and anxious to use filmstrips, will find that cost and the lack of technical resources will prevent them from doing so. Even if this is so there is no reason for not attempting some kind of visual approach. All the arguments and examples dealt with above can be modified and applied to other methods of presentation. One could make a folder containing the visual material and the teaching notes and use it as a class reference book. Where an episcope is available the visual material could be prepared on postcards and these could then be projected in the right order, indeed they could even be mounted on a long strip of paper and thus form an 'episcope strip'. The important thing is to think of visual education as a means of approach, and not merely in terms of presentation as strip or chart. It is the method in general, not the method in detail, which matters.

Among those who are not able to make their own filmstrips there will be some who may be in a position to buy them. They will be catered for by the commercial producer and will find a very wide variety of material available for them. In some areas there are filmstrip libraries which charge moderate rentals, and in other places the Education Authority may have its own library. The teacher should make certain that he has explored all these possibilities completely. In order to reduce costs of commercial purchases, schools can club

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together in common ownership. This is particularly well worth consideration where a strip has to be made specially for local needs—the greater the number of copies purchased the lower the cost of each.

It should also be noted that a filmstrip can be used to make visual material in other forms. Any particularly useful picture, map or diagram can be projected and drawn on to a sheet of paper and then finished off in colour or black and white. This technique could be used particularly well, for example, in relation to the equipping of the schools of an area with a sufficiency of maps. In the case of maps the important points to notice are:

1. A well-considered scheme should be the basis of the strip to ensure that it meets everyone's needs and covers the subject.
2. The original drawings should be clear and bold with easily read lettering.
3. Maps which are to be photographed (or other material) can be worked on with indian ink, Chinese white, etc., to emphasize detail.
4. All maps should show scale and orientation.
5. When showing a special region on a larger scale it is desirable to insert a small-scale outline map of the whole country on which the special region is shown in black.
6. As far as possible keep to a standardized scheme of symbols, lettering and other forms of coding.
7. When the maps have been enlarged into a large-sized pencil drawing, write in all lettering and symbols in pencil and check with care. Then paint with a series of light washes of colour and finally ink the lettering and outlines, etc., on top of the paint.

A basic scheme for the layout of such a map strip which could be adapted to most countries is as follows:

		Frame	
PART 1	The position of the country	1	Position on Mercator projection showing land and sea routes
		2	Position on Azimuthal projection showing air routes of the world
		3	Position in relation to own continent
		4	Position in relation to contiguous countries
PART 2	Basic geography of the country	5	Physical relief model, oblique view
		6	Contour map
		7	Vertical sections
		8	Surface geology
		9	Solid geology
PART 3	Climate	10	Temperature distribution
		11	Rainfall map
		12	Charts of climatic data
PART 4	Regional geography	13	Natural vegetation zones
		14	Natural regions
		15	Cultivated areas
PART 5	Mineral resources	16	Metallic ores
		17	Oils and coal
		18	Stone quarrying
		19	Important sands, clays, etc.
		20	Salts and other chemicals

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PART 6 Human geography	21 Distribution of population
	22 Types of settlement
	23 Industrial and rural activities
	24 Major communications
	25 Administrative divisions

It will at once be seen that such a map strip makes it possible for every school to have a set of large-scale maps which cover all the main geographical features in a way which cannot be done when relying only upon textbook diagrams and atlas maps. This is but one idea for a subject not well treated in the textbook—there are very many others. It may stimulate interest to suggest a few more subjects, such as the following:

Local historical remains.
Changes in the distribution and size of local population.
Local industries.
Local arts and crafts.
Tank and irrigation schemes.
Water supply.
Local agricultural methods.
Health and factors which affect it locally.
Local customs.
Local social service work.
How the local region is governed.
'Our School' and what is does.
'Our Problems'—and how we might tackle them.

T. L. GREEN

This article has been condensed from a chapter in Mr Green's forthcoming book, *The Visual Approach to Teaching* (Oxford University Press).

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SCHOOL RECORDS AND EXAMINATIONS

Measure the Child's Progress in Terms of his Total Growth

BEFORE examining the role and importance of school records in examinations it is necessary to clarify the purposes and the objectives of such examinations. The achievement of these purposes and objectives often necessitates the institution and use of school records. In what way should the school records be maintained and what pieces of information should they contain are questions to be dealt with latter. Answers to them will directly depend upon the nature and extent of the use or purpose of these records and how they ultimately serve to achieve the final purposes of examinations. This article is confined to public and other external examinations employed to promote the pupils, up to the secondary school level, from one class to another.

In the final analysis an examination is the evaluation of certain changes in the child—changes that have occurred during a learning period and have produced certain distinct characteristics which were absent in him before he started learning.

'Has my teaching actually produced the type of child I have tried to produce?' This is a question any teacher may ask himself at the end of a session. He thinks about it on the first day of school when he sees that his class has taken a step forward and realizes that the pupils he has worked with have graduated. It is impossible to make the ultimate evaluation until the child has lived his life. All the same, evaluation techniques in modern times have advanced to the extent of predicting the ultimate worth of a child. For education to make progress it is vitally essential to know at all times what is happening to children as a result of their experiences at school.

Whether or not the school curriculum has been really fruitful is indicated only through a continuous and regular programme of evaluation. Are there any changes taking place in the children? If so, what are they? And where or in which cases are the changes not taking place? What are the needs of the whole class and what are those of the individual? These are the questions which will be answered by evaluation. A teacher must be adept in interpreting all data about the individual child. It is not enough to know that Ram is good at arithmetic. We need to know Ram's progress in other subjects, his physical and emotional development, his interests, his social relations, and his intelligence. His family and community background are also to be ascertained. In fact all that constitutes the make-up of the child's total personality comes within the teacher's purview. Evidently evaluation can give us a better picture of the child if we try to integrate all these factors concerning him. It is through the medium of school records alone that progress in each one of these factors is determined.

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Evaluation must be made in terms of the children's total development. The task of doing so much for so many appears to be very difficult. But there is no cause for despair as the measuring instruments have improved considerably and the techniques of obtaining and maintaining all the requisite information have progressed a good deal.

Examinations as a Means of Measuring the Achievement of Educational Aims

'Evaluation is the measurement of the extent or degree to which pupils have attained the objectives of education.' This is the basic, accepted belief about evaluation. Examinations should be of one type if we adopt this belief, and of quite another type if we do not. We at present measure a child's attainment in history, geography, or language. This measurement is confined to a few particular activities and knowledge. But it is in no case an evaluation of the objectives which our schools are meant to attain. The tests used to measure the objectives of a certain class level are numerous and varied. The evaluation of these objectives through standardized achievement tests is neither always possible nor necessary. It would not be out of place to mention the methods of evaluating objectives by quoting an example from Wrightstone's *Measuring the Attainment of Newer Educational Objectives*. 'Objective: To cultivate the habit of critical thinking. The child who has cultivated the habit of critical thinking is able (*i*) to recognize problems, (*ii*) to find, select, and reject evidence bearing upon these problems, (*iii*) to organize materials, (*iv*) to draw conclusions or to render judgement, and (*v*) to test his conclusions. The objective can be measured validly above the third-grade level by a battery of specially constructed pencil-and-paper tests devoted to the abilities of pupils in (*i*) obtaining facts from problems, (*ii*) organizing facts, (*iii*) interpreting or explaining facts, and (*iv*) applying facts to new situations.'

On the face of it this work of evaluation seems to be complicated. A definite sequence needs to be followed in any process of evaluation. What we want to evaluate, i.e. the objectives, comes first. The changes expected in the child's behaviour after he has lived up to an objective, i.e. behaviour changes, are next in importance. These changes are to be derived from the objective and are to be properly defined. The instruments to be used for measuring each of the behaviour changes, i.e. the devising of tests, should be considered in the third step. The pupil's responses to the tests are considered last, and from this judgements concerning the pupil's growth and development are made.

To discuss developments in the instruments of evaluating different reactions, skills, emotional attitudes, adjustment, and personality is beyond the scope of this article.

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Need for School Records

That the child's progress must be measured in terms of his own total growth inevitably warrants the need of a cumulative record. The teacher starts preparing this record as soon as the child enters school and ends the process when he leaves the school.

The pressures of numbers in the present mass system of education and the wide variety of students who come from different cultural and socio-economic backgrounds, forbid and even incapacitate the poor teacher. He is unable to pay attention to individuals as the teacher did in ancient times. The belief that individual attention must be paid has been held by teachers in every civilization, especially in ours when the democratic social order recognizes the right of every individual to receive education for the full development of his personality. It is possible to pay individual attention today because of the improvement in measurement techniques which size up individual differences. Without the help of a systematized record the teacher in such a system of education is unable to perform his function effectively or to give individual attention. If records are kept properly by modern methods, if they contain all the child's abilities at periodical intervals, and if the records are comprehensive enough to give a complete picture of the child, they can satisfactorily replace the traditional system of examinations.

External and Internal Examinations Record Cards

In the year 1955 Sir Gilbert Fleming, Secretary to the Ministry of Education in Great Britain, condemned external examinations which, according to him, handicap the teacher in his freedom to plan courses of study and meet the needs of the individual pupil. If examinations were planned on a national basis, schools of all types and at all places would be subjected to a most undesirable uniformity. Sir Gilbert's fear was that a school's success or failure would be unnecessarily based on the results in the external examination—irrespective of its individual problems and background. Similarly, the Education Department of Bombay State seriously thought of transferring the emphasis from external examinations to internal tests and school records as a part of its programme for the implementation of the recommendations made by the Mudaliar Committee on Secondary Education, and took some steps in this direction.

Whereas the teacher has no say in the external examination, the internal examination is wholly his concern. What is needed is not the abolition of the examination, but reform in the system of examination and promotion. The internal examination is meant to fulfil two conditions, viz. it should serve as evaluation and as guidance. Whereas the present examinations are designed to evaluate, they do not serve the purpose of guidance, which should be considered equally important. Our tests should be designed to enable the teacher to guide his pupils in their study and to enable him to take stock of his teaching method, his

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approach, and the contents of his teaching material. Promotions must not only be based on a child's achievement in a test or tests but also on his regularity of attendance, his classwork and homework, and his participation in the co-curricular activities. For all these, proper school records must be maintained and the child's progress at the end of the year assessed on the strength of these records.

Importance of Cumulative Records

The need for guidance at the secondary stage is very great in modern times owing to (*i*) the complexities of life and their adverse effects on individual adjustment, and (*ii*) the courses being too diversified for the pupils to be able to make the right choice. Without proper guidance the child may find himself a misfit and consequently the Government's reforms in education may fail. Cumulative records should be the basis of all guidance at school.

School records are immensely useful (*i*) to the class teacher in knowing the child's potentialities, (*ii*) to the pupil leaving school and seeking further opportunities for higher studies, (*iii*) to the pupil leaving school to seek employment, and (*iv*) to the employer who needs to know the interests and aptitudes of the employee.

It should, however, be borne in mind that to keep and maintain these records is not as easy as it may appear. The teachers must work hard, patiently and sincerely, and must be honest in their attitude towards their pupils.

The Purpose and Criteria of a Cumulative Record as an Instrument of Evaluation

F. M. Earle, in his *Reconstruction in the Secondary Schools*, describes the purposes of the cumulative record as follows: To indicate changes in the child's rate of progress from all points of view, to prescribe adjustment, and to know the speed and efficiency of learning in different aspects of the educational environment by which natural aptitudes may be assessed.

The purposes of school records are defined by Mr M. R. Laljani of Jamia Millia as follows:

1. They should give due credit for the child's performance and for the progress made by him in all aspects of school life. The very existence of the school record will stimulate many schools to evaluate and give credit for all aspects of the child's work.

2. The rate of progress, which is more important than actual performance, can be ascertained only through cumulative records. The child's natural aptitudes can be assessed by showing clearly his speed and efficiency of learning.

3. The data about the child's family conditions and his emotional and mental make-up as contained in the cumulative record can help the teacher to diagnose the factors which condition the changes in the rate of progress. Thus the teacher can prescribe adjustment,

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The purposes enunciated by the two authors are similar, and are in fact the chief purposes that any school record which is used as a means of evaluation should serve.

The main criteria of a school record are stated below:

1. It should be comprehensive enough to give a complete picture of the child during his school years or even at the end of a session. The data should include all the different aspects of the child's work in school.

2. It should be designed for easy comprehension. Complicated and superfluous matter should be avoided. A graphic form or an intelligible tabular form is preferable.

3. Only information which the school can use for evaluation and for guidance should be included.

What does the Cumulative Record Comprise?

One form or another of school record is now being used by an increasing number of schools. Having discussed the purposes and criteria of the record we shall now consider its contents. Opinion differs as to what the record should comprise. The main items included in the records of some good schools in the United States are given below in Table I. This study was made by Segel. Besides the routine items, more than half the schools kept records of family background, intelligence and achievement test results, social and character ratings, and a health record. The list of traits to be rated gives an idea of the characteristics which are regarded as important by the schools. Segel found 103 different traits in 220 different records. The most frequently occurring items are given in Table II.

TABLE I

Frequency of occurrence in percentages of each item on selected cumulative records studied

	Item	*Elementary (113 Records)*
1.	Scholarship (marks)	96
2.	School progress	90
3.	Attendance	86
4.	Social and character ratings	73
5.	Entrance and withdrawal	71
6.	Home conditions and family history	70
7.	Health	65
8.	Intelligence test results	58
9.	Space for notes	58
10.	Achievement test results	51
11.	Residence record	38
12.	Extra-curricular activities	19
13.	Vocational and educational plans	17
14.	College or vocation entered after leaving school	15
15.	Special abilities	14
16.	Photograph	7
17.	Out-of-school employment	5

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TABLE H

Frequency of mention of character and social traits in cumulative record forms

Traits		*Number of times mentioned*
Co-operation	...	39
Leadership	...	25
Personal appearance	...	23
Industry	...	23
Initiative	...	21
Honesty	...	19
Courtesy	...	19
Reliability	...	18
Dependability	...	16
Self-control	...	13
Effort	...	13
Conduct	...	12
Accuracy	...	12
Punctuality	...	11
Obedience	...	10

That scholarship, school progress and attendance have been given the greatest importance shows that American schools work with great emphasis on the school's chief objective, i.e. learning activity. Second priority is given to social and individual traits, health and environment, as all of them influence the learning process a good deal.

That the attitude of American educationists is fast changing is illustrated by the fact that 'co-operation' heads the list while 'obedience' comes at the tail end.

That the system of cumulative records is complex is shown by Paul Diederich, who thinks that an individual's records should contain :

1. Personal pattern of goals ; the goals in which he is interested and his success in attaining them will be written out by the pupil himself at intervals of a week or month.
2. Records of significant experiences ; to be written out by the pupil at irregular intervals.
3. Reading records : a record of his free reading, which is a good index to intellectual maturity.
4. Records of cultural experience : attendance at plays, concerts, listening periods on radio, etc.
5. Records of creative expression : the title or subject of the creative product, teacher's interpretation etc.
6. Anecdotal records of pupils, and interpretation by the teacher.
7. Records of conferences.
8. Record of excuses and explanations.
9. Record of tests and examinations, with an interpretation by the teacher.
10. Health and family history.
11. Oral language diagnosis: diagnosis of the pupil's pronunciation, enunciation, quality of voice, diction, and usage, without an intimate knowledge of the pupil. For use in subsequent work.
12. Minutes of student affairs.

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13. Personality ratings and descriptions.
14. Questionnaires: these include all interest and personal questionnaires. To be interpreted and filed in the pupil's folder.
15. Records of courses and activities.
16. Administrative records.

The success of a record depends entirely upon the ability of the teacher to interpret it. The teacher alone knows and understands the pupil and hence he alone can make full use of the record.

Different cumulative records have been adopted by different schools in the United States and England. Two of the important forms are being profitably used by the Educational Records Bureau (New York) and Kent County Schools (England). These forms, after necessary modifications, can be usefully adapted for our schools. The record is to be adjusted to fit the individual school system and hence the need for adaptation.

The record data, according to W. C. Allen, may be used:

(*i*) to obtain an over-all picture of the past experience of each student,

(*ii*) to facilitate the study of the gifted and the handicapped children,

(*iii*) to help in finding the degree to which students are progressing towards the objectives which the school has accepted,

(*iv*) to let the teacher determine the characteristics of a group of his students,

(*v*) to provide essential data to the guidance worker to enable him to help students in selecting curricular and extra-curricular experiences with the ultimate object of promoting their social health, educational and vocational adjustment.

In India some important examination reforms have been made in the M. S. University, Baroda, wherein the cumulative record forms an integral part of the evaluation programme.

School records are to public examinations what a patient's case-history is to a doctor. How well they are maintained will determine how effective our examination system is and consequently how efficient our educational programme is. Records will yield generous dividends.

S. B. KAKKAR

BOOK–LIST

J. M. LEE & D. M. LEE: *The Child and his Curriculum*
M. R. LALJANI: *Evaluation in Basic Schools*
L. MILDRED FISHER: *The Cumulative Record as a Tool*
SALAMATT-ULLAH: *Examinations in India*
DAVID SEGEL: *Nature and Use of the Cumulative Record*
PAUL DIEDERICH: *Evaluation Records*
W. C. ALLEN: *Cumulative Records*
J. WAYNE WRIGHTSTONE: *Measuring the Attainment of Newer Educational Objectives*

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CONSTRUCTIVE ACTIVITY

The Bricks and Mortar from which Character is Built

THERE are about forty five- and six-year-old children in this room, and yet, because they are grouped around sets of tables for their work instead of being arranged in rows, the room somehow does not seem crowded.

At one table there are pots of paint and plenty of rag, and a cocoa-tin for water; five children have large sheets of paper spread before them on the tables, and are plying brushes in the making of pictures. A sixth child has got down on to the floor with his picture and is lying on his front to work.

At the next group of tables there is tremendous activity around a heap of cigarette cartons, match-boxes, ice-cream cups, paper scraps, scissors and paste. No two children are using their material in quite the same way. Further on, the cutting out of animal pictures for an 'Animal Scrapbook' is involving a tremendous amount of concentration. At a fourth group a large container of clay is being dipped into freely for modelling. Here, the workers have all put on aprons, and each has a small board to work on.

One child has a job all her own: she is colouring in a picture of today's Nature news—the butterfly we found on the window in the hall.

A small group of friends, having just made cars, and found how to make the wheels revolve, are content to wheel their cars endlessly up and down. A couple of old grannies in another corner are teaching themselves to knit; and one or two who are pleased with their new-found skill in reading have decided not to make anything this morning.

Oh, yes, and on the veranda outside some large blocks are being built into a hotel, within the precincts of which tea is already being served to a row of dolls.

How did this happen? And how is it that these children, in spite of the variety of occupation, are so quiet at their work?

They came to school this morning already full of ideas as to what they wanted to do. They knew they would start the day like this; and all the creative ideas that were surging up inside them are now being given scope for expression. They are far too busy and too purposeful to be noisy or undisciplined. There is, in fact, no sense in behaving badly when there is so much to do. And each child is not only learning from his neighbour's experience as well as his own, he is also learning to live as a member of a sociable group in which mutual help and suggestions and friendly criticism are encouraged.

The teacher likes it this way, too. There is, in the first place, an economy of materials. There is no need for forty water-pots and forty sets of paint jars, or forty clay-boards; for only six or eight will be needed at any one time. And there is no need for that endless

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searching of the brain for 'something for my class to make in handwork'. The children think that out for you. And even if it were not for these two points, the sheer enjoyment and fierce concentration shown at each table would reward all your efforts.

Sometimes we hear people say: 'Ah, yes! but we can't afford that.' But this is not an expensive type of work. The writer must be only one of a great army of teachers who learnt economy during the war. We learnt to use soap wrappings, writing-pad backs and covers, old calendars, newspaper, cotton-reels, dead matches and used postage-stamps. A large packing-case with a dust-cover of some sort can be constantly replenished by all the children, the matrons, the mothers and aunts. And then there is the wonderful saving effected by the need of only a few and not a whole forty sets of paints, clay-boards, scissors, paste pots.

Nature has equipped the young human with a tendency to use play, or rather self-activity, as the normal means of learning. And yet teachers and parents too often persist in the idea that there is something wrong in allowing self-chosen activities in school. Children in school are expected to act contrary to nature, to sit in orderly rows and to submit to direction by another. Forty of them are expected to learn and do the something at the same time and at the same speed. Even in the realm of handwork, and even in schools where there is some attempt at putting basic principles into practice, there is still this tendency to regiment children into the making of the same article all at the same pace and along the same well defined lines. The result of this is that children are deprived of the delight in true creation, and the delight in puzzling things out for themselves, inventing, experimenting, exploring, discovering. They are given no opportunity for the development of initiative and resourcefulness; for all the constructive thinking has been done by the teacher, and the class is merely expected to follow her instructions.

How, then, are we to get started? What is the recipe to which we must work?

The first essential is the adequate supply of the right kind of materials in suitable quantities. Nothing can doom a free constructive period like the lack of stimulating and suggestive material.

But as already pointed out, this is neither a difficult nor an expensive task, if we set about it in the right manner. Kindergarten teachers have a reputation for being hoarders! The packing-case is full of waste materials; the cupboard is stocked with scissors, pliers, paints, brushes, string, sewing cotton and needles, pipe-cleaners, wire, cotton waste, tin-foil and other such rather specialized needs. One side table has been spread with newspaper as the pasting table, to obviate the necessity for many pots and brushes. Display space has been cleared for finished models. It is of course essential that children should be able to help themselves freely to what they need from cupboard, box or shelf, and that picked people should have the job of counting scissors

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and brushes at the end, cleaning the paint pots, and gathering up the unused clay.

As for the room, the rearrangement of desks makes a tremendous difference not only to the atmosphere of work but also to the best use of available space. Four or six tables are pushed together into a block; sometimes more than that number of chairs can be accommodated round the blocked tables. Any spare tables are pushed against the wall for display of materials and the finished products. The children can move freely in search of their needs. They can stand to work if they wish; it is often found that children stand for choice; as a carpenter would in his workshop. If some process is more easily managed on the floor, the children will naturally 'get down to it'.

Nevertheless, it is sometimes impossible, both from the nature of the desks and from the size of the room, to do any actual furniture moving. This does not mean that constructive activity is out of the question for that particular class. Children are adaptable creatures, and far more prepared to make the most of a situation than we are. Children who by nature of their restrictive surroundings are compelled to sit in ordered rows for a large part of the day, need the stretching and the social experience and the self-expression that constructive handwork provides. And there may even be a veranda, a shed, or a tiffin room which can be utilized, for small children can be very independent of furniture.

There is generally no call for any silence rule. To insist on silence is unnatural and autocratic; it is, moreover, depriving children of one of the most natural means of training in social behaviour. If they are busy and interested, there will be remarkably little noise in the room —no more, in fact, than has sometimes been described as a 'busy hum of activity'.

In many kindergartens this constructive activity occupies the first hour of every morning. It is worth all that. But if that is impossible, much can be done with two or three such hours in the week. Our decision will largely depend on whether we are still in two minds as to the value of this work. If we harbour a suspicion that the children will be wasting time with all this play—time that should be employed in the Three R's—then we shall grudge the time taken. But it may be that as time goes on the children's delight in their work, their never-failing supply of ideas, their new discoveries, will make it increasingly difficult to deprive them of five minutes of their time. We find ourselves reluctant to give the word 'stop work and start clearing up' a minute before we need.

Meanwhile, out of the activities of this hour will arise a new desire for more formal studies. Not only will the children, having satisfied that creative urge and that craving for expression, settle more willingly and co-operatively to 'lessons'. It will actually be found that they want to learn their Three R's now. 'I have drawn a picture, I want to write the title to it.' 'I need some notices to put up in my shop.' 'I

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wish I could read the instructions on this cut-out model.' 'How big shall I cut this piece of card?' 'I have made a book, and it is going to be full of stories.'

That, after all, is Nature's true meaning and purpose of play—that a child through his own self-chosen activity and experience shall learn; and shall discover the motivation for further and more serious learning.

We have been considering so far the provision of free constructive activity for the youngest children: those who, in spite of renumbered classes, we may still call the kindergarten. Up to the age of six or seven, children are individualists working by themselves or with a friend. Their interest in one piece of work may be short-lived; there may be little attempt to organize their efforts towards a project or centre of interest, and little chance of getting their co-operation as a group. But in time it may be that one day a common bond of interest may cause the workers to combine, under the unobtrusive direction of the teacher, towards the creation of a shop, a street, a fair, a railway station. Then the work takes on a new interest, and the whole activity becomes a wonderful piece of social training and a fresh source of new interest in the arts of reading, writing and numbering.

It is in this form that we shall find that there is still place for constructive activity when Standard III is reached. From the age of seven, children are capable of combining in a group project. They are, moreover, able to sustain interest over a longer period and towards a more distant goal. Then the work will be conducted more under the direction of the teacher, who is found to possess valuable skills and knowledge and ideas that the group needs, and of the natural leaders of the group. There is an increased sense of purpose.

A centre of interest such as Transport or Puppetry or Local Crafts or Our Town will take visible form during this activity time, be it daily or merely twice a week. The important thing to remember is that the value of this type of constructive activity is in no way diminished as children pass the age of seven. They still learn by experience and activity rather than by listening; they still possess undiminished that love of creative expression which is Man's distinctive heritage. They will still find, through the medium of their handwork the purpose and motivation for their more formal school subjects, only they are readier to take suggestions and help in their work, and to combine with others towards a common purpose. And their handwork, becomes the tangible core and expression of all the rest of their school learning.

And if any further reward is sought, it is found in a new aliveness in our children, a new sense of purpose and an awakened interest in and awareness of the world around them.

P. N. JOHNSON

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BIRD WATCHING IN SCHOOLS

A Fascinating and Educative Hobby

BIRD WATCHING is a hobby well worth cultivating. It seems to have nearly every virtue that a hobby can be expected to have. It needs no expensive equipment; the only essentials are a pair of binoculars and possibly a good book on Indian birds. It needs no special environment; it can be practised in any place in the world. Even in the most crowded cities, there are always birds wherever there is a park or a little bit of greenery. The comparatively sedentary person as well as the very active one can watch birds, for it is possible to study the more common species from a window or a veranda as well as to chase far into jungles and mountains after the more unusual species. And finally, it is a hobby which, unlike most childhood hobbies, is not likely to lose its attraction in later life. Even in those cases where it fails to become an absorbing passion, it will serve as a link to keep one in touch with the workings of nature.

In order to encourage children to take an interest in bird watching, we can start with the materials at hand. There can be no school in India which does not receive bird visitors. Even schools in the middle of a city entertain birds such as crows, sparrows, mynahs, warblers, pigeons, and kites in their compounds. In schools which are in a less built-up area, pupils see many more species. It is possible to attract more species to the school compound by a few 'aids'. For instance, a shallow bird bath (not more than 1 inch deep) placed either on the ground or at a slight height will attract small birds in the hot season. They will come to it to refresh themselves. Nest boxes suitably placed might tempt dhyals and mynahs to build in them. Also, during the nesting season, bits of coloured thread and cotton wool may be left on shrubs or on the branches of trees; they will probably be carried off by birds who need just these things for their nest.

Children can begin by learning to observe these birds carefully. Let them make themselves completely familiar with them. Let them study the shapes, sizes and colours of these familiar birds. Let them notice the types of their bills and toes and relate them to their food and perching habits. Let them note the different types of flight of each species. It is a good idea to encourage pupils to keep a note-book and to record everything as accurately and precisely as possible. The most important training in bird watching is the habit of precise observation.

All these things help as an introduction to the hobby. For proper bird watching it is necessary to go out into the country.

A bird-watching expedition has to be rather different in character from a brisk tramp through the fields and forests. In the first place,

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since it is essential not to make too much noise, it is best to split up into small parties of twos or threes. Secondly, in order to see anything worth while, a great deal of time must be spent in keeping still and watching.

The best time for bird-watching expeditions is the early morning. Birds are early risers and are most active in the cool hours before the sun is well up. At this time of day they are also most vocal, and the beauty of bird-calls in a forest is something which must be heard to be believed. In the early morning it is possible to see even the very shy birds which usually hide themselves so well among the leaves, for they give themselves away by their song and we have the chance to track them down.

The only necessary equipment for bird-watching expeditions is a notebook and pencil and a pair of binoculars. This last is vital. It is almost impossible to see the colours of a small bird properly with the naked eye. Hardly any bird will allow you to approach closer than about ten yards, and even the sharpest eyes cannot make out its markings at that distance. Apart from sitting in a specially constructed 'hide' for several days, the only way of getting a good look at a bird which is not dead or in a cage is through binoculars. If a school wishes to encourage bird watching, it must invest in a few pairs of inexpensive binoculars. A notebook and pencil are useful in order to be able to identify, later on, the bird which one has seen. Unless you write down immediately exactly what has been seen you are likely to forget and get confused. It is extremely difficult to take in accurately all the details about colouring, shape and size on first seeing a bird. It is often better to concentrate, noting only one or two of the most prominent characteristics. For instance, if you can say with certainty that there was a bird the size of a mynah, which gave a general impression of blueness and had a strong red beak, it will be easier to identify later. A muddled description which says that the bird had a little blue, white and red, and perhaps some other colours as well, will only lead to confusion. The important thing, then, even in a fleeting glimpse, is to seize on one prominent feature about which you can be absolutely sure.

The situation and position of the bird can also be useful in determining its identity. You would naturally note down in what sort of country the bird was seen—whether it was in open fields, dense jungle or desert. But it is also useful to note whether the bird was among the branches of a tree or on the ground, and so on. For instance, one is not likely to see an oriole on the ground, just as one is unlikely to see a skylark keeping to a tree.

After some practice, the flight of a bird will also become significant. A careful observation of the movements and flying actions of a bird, apart from its purely physical appearance, is of immense value. Just as we can usually recognize a friend by his gait before we see his face, so the bird watcher will find that he can recognize a familiar

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bird by a mannerism of its flight, even when he cannot see its colours clearly.

Learning to recognize and track down the different species by referring to books is an exciting game. It is rather like a police job, and there are many traps and pitfalls. There are so many species in which the male is different from the female. There are many species in which the male changes its colour during the breeding season. Among several species the calls are different during the breeding season, and sometimes the young birds have a slightly different plumage from the adult birds. Nevertheless, if all these things are kept in mind, it is not too difficult, with the help of books, to identify most of the birds which an amateur is likely to see in India.

I will now say something about the different places which it is most rewarding to visit at certain times of the year. It is so much easier to find something if one knows where to look for it, and when.

March-June: This is the season when many of the smaller birds are singing, courting and building their nests. Although the nesting season is not always sharply defined, this is the time of the greatest breeding activity of many of our common species such as warblers, flycatchers, drongos, sun birds, bulbuls and bee-eaters. One of the commonest birds, the dhyal for instance, is in a state of great excitement at this time. It develops a beautiful song which can be heard particularly in the early morning. Its cousin the shāma, which is said to be our best songster, is also in voice, but it does not come into our gardens to sing. If we wish to hear it we must seek it in the jungle.

One sees many little domestic dramas during these days. Spring fever indeed seems to be in the air. The birds look glossier, are brighter-coloured than before, and some have special breeding colours in their plumage. They are restlessly active, and many of the males become pugnacious and ready to fight with others. During this season one often sees a bird with a wisp of grass in its beak, and it needs only a little patience to track it to its proposed building site, or to find its nest. Such a find is valuable indeed, for by keeping a discreet watch on it, it is possible to see the whole story: the building of the nest, the laying of eggs, brooding, hatching, and eventually the chicks who have learned to fly and are ready to leave the nest. Let me stress here that the discovery of a nest is a great responsibility, and that the greatest care should be taken not to frighten the birds or reveal it to their enemies, the crows and the cats.

July-September: One of the most exciting things to watch during the rainy season is a nesting colony of bayas while the colony is being built. These colonies are a familiar sight in most parts of India during the monsoon. The most usual site is either a palmyra or a babul tree. The bayas seem to prefer a babul tree which is hanging over a pond or a tank; they often choose a tree which is growing from the side of a disused well. Such a site is ideal for watching; the birds are so excited and busy that one can sit quite close to them and they will

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take no notice. It is easy to pass hour after hour watching each bird as it brings a piece of grass and weaves it expertly into its bottle-shaped nest.

It is during the rains, too, that our familiar friend, the cattle egret, develops an orange patch on its head, neck and back. This is a sign that it is ready to breed. Egrets nest in their colonies, and it is not unusual at this time to find trees loaded with dozens of their nests. An expedition to see such a tree can be very rewarding, for it will give a fine view of the family life of egrets, as well as of other birds, such as cormorants, who are sharing the tree.

September-December : The migrant birds which had gone to colder places to breed have begun to return by now. Wagtails, rosy pastors, swallows, and some of the warblers which had been absent during the summer are back again. On the sea coast, gulls, waders, plovers and sandpipers are also back, and a visit to the seashore or a creek will introduce us to all these species.

The ponds and *jheels* also have their full complement of bird life now. Snipe, wild duck, and coots are back, and have joined in the life of the other residents of the pond. I must add here that many of the migrants which live near the water, such as plovers, sandpipers and snipe, have a discouraging tendency to look very much like each other. They are all small, mud-coloured, and long legged; it needs great industry and persistence to sort out the different species. The same is true of some of the heron-like birds.

January-March : At this time the forests are blazing with flowers, the Flame of the Forest, silk cotton and coral trees are in full bloom. The blossoms of these trees have a nectar which seems to be quite irresistible to birds, and they flock to them as ants to a pot of honey. Fortunately all these trees have little or no foliage to hide the birds from view. The nectar of the silk cotton tree must be superior to the others, because it is this tree that collects the greatest number of birds. We can sometimes see more bird life in a visit to one good silk cotton tree in flower than we would see in a long walk through the country-side.

LAEEQ FUTEHALLY

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SOME IMMEDIATE OBJECTIVES IN EDUCATIONAL REFORM

Some Grave Problems which require Urgent Tackling

DURING the past decade, reform and reconstruction have been common topics of discussion, especially in the field of education. Public speaker after public speaker, Commission after Commission have categorically stated that the present system of education is unsatisfactory, quantitatively and qualitatively, and have stressed the necessity for its radical transformation by purging it of existing defects, remedying deficiencies, and bringing the system as a whole more into tune with national needs and aspirations. The Sargent Report, the Kher Commission Report, the Secondary Education Commission, and more recently the Planning Commission's First and Second Five Year Plans embodying the ideals of India's foremost educationists, have with one voice condemned the present system of education, and suggested ways and means for its reform and reconstruction. And yet, despite this activity in the field of educational theory, relatively little has been done in practice towards laying the foundations for a comprehensive and progressive system of education on a nation-wide basis.

That the speedy establishment of such a system is an absolute and urgent necessity cannot be too often or too emphatically emphasized. 'We are conscious,' state the authors of the Five Year Plan, 'of the vital role of education in the reconstruction of our country. It is obvious that the failure to provide adequate educational facilities means neglect and waste of precious human material.' It is equally obvious that without adequate educational facilities and a sound and comprehensive educational system our newly won independence will be in grave jeopardy, and our progress towards our ideal of being a sovereign democratic republic and a great nation, able to hold her own on terms of perfect equality in the councils of the world, will remain an idle dream, 'begot of nothing but vain fantasy'. The grave warning of the Sargent Commission is even truer today than it was in 1944: 'Other countries are already on the march towards social security, and if India continues to evade her responsibilities in this respect, she must be content to relegate herself to a position of permanent inferiority in the society of civilized nations.'

There appears to be sufficient realization, at least in theory, of the urgency and the gravity of the problem. Why then has so disappointingly little been done towards its solution in the twelve years that have elapsed since Independence? There are many reasons. The very magnitude and complexity of the problem and the inability to decide where to begin tackling it, is one reason. Apathy, inertia and vested interests; a want of real conviction about and faith in the necessity and value of education on the part of our leaders, springing usually

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from a blindness as to the true nature and potentialities of education; lack of trained personnel and, last but not least, the oft repeated cry of financial stringency, are others. To aim at removing all these obstacles to progress at once, would appear to be attempting the impossible. And yet a start must be made somewhere, if we are to get anywhere.

Our most urgent need is to provide free, universal, compulsory, elementary education from 6 to 14 for every child in India. The Sargent Committee hoped this would be accomplished in 40 years, the Kher Committee in 16 and the New Constitution in 10 years! Since an immediate increase in the quantitative aspect of education cannot be envisaged, educationists cannot do better than to concentrate their immediate efforts on improving the quality of the education imparted in existing institutions of all types.

The quality of a national system of education depends not so much on bricks and mortar or on elaborate apparatus as on the quality of its teachers. India may not be able to find the money to build magnificent schools, or equip them with the latest teaching aids, but she can, and must, find the money to attract the best available men and women into the service of teaching. To accomplish this, money, though vitally important, is not the only or even the main; consideration. Teachers are often lauded as 'nation builders'; in practice they are treated with less respect than road sweepers or petty clerks. Unless teachers' salaries and service conditions are radically improved, the status of the profession raised in the public eye, and teachers honoured and respected as in the days of the gurus, the profession will continue to attract only the misfits and failures of life. A good teacher will educate his pupils even under a peepul tree—a bad teacher will ruin them even in an ideally built and equipped school! No system of education can rise higher than its teachers.

Once the right type of teacher is found, and educated and trained in such a way as to fit him for his exalted vocation, he should be given a much larger measure of freedom in the planning and conduct of education than heretofore. Without such freedom, no personal or professional growth, or creative work, or experiment or research will be possible. Excessive centralization and regimentation of education extending to organization, finance, curriculum, textbooks and methods of teaching, exert a deadening influence on the quality of education.

But before real improvement can begin to take place in the quality of education, we must be perfectly clear on the ultimate purpose for which we are educating the children in our schools. Are we preparing them for a job, or for life? The fact that we are at the dawn of a period of unprecedented technological and material progress makes it a matter of great urgency for our schools to insist on the vital importance of our ancient moral and spiritual heritage For the India of the future we want not only clever men but good men, not money-grabbers and power-seekers, but men of sound character pledged to an ideal of

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service before self. Hence schools must not educate children merely to pass examinations or to get on in the world, but to dedicate themselves to the service of their country and their fellows; they must teach children both to earn a good living, and to live a good life.

The excessively 'academic' nature of our education and its tendency to create a snobbish contempt for manual labour is another of the dangerous features in our present system of education. Our schools must therefore inculcate in pupils not only a new and more worthwhile philosophy of life, but also a new philosophy of manual labour. To concentrate on the child's head and ignore his hands and his heart is to give him a lopsided education that will develop in him a stunted, warped and unbalanced personality. Not only the dull, the low caste, the socially inferior need manual training; every child needs to be taught how to develop his manual skills and made to realize through theory and practice the nobility and dignity of manual labour. 'Any nation,' says an American educationist, 'which permits its youth to reach the age of 18 without having known the meaning of work (manual) is merely setting the date of its own decline.' Free India will need an army of workers; our national weakness so far has been a plethora of armchair specialists and thinkers, and a pitiful shortage of people ready, willing and able to work with their hands.

While we stress the importance of skilled manual workers, we are not blind to the importance of creative thinking and planning. A nation cannot have too many high-level critical and creative thinkers. Schools must endeavour to produce such men and women; but their aim should be to foster not the stuffed mind, but the inquiring mind. The healthy working of a democracy demands men and women who are not led away by slogans and catchpenny promises, but who can think for themselves, and it is the business of our schools to produce them. With this end in view, the present examination system which encourages rote-learning and mental indigestion and kills originality and creativeness will have to be radically transformed. Examinations are a necessary evil, but the judicious use of intelligence tests, aptitude tests and attainment tests, cumulative records and teachers' estimates should help to mitigate some of the more obvious defects of our present examination system. Unless ways and means are found of making examinations a means to an end, and not an end in themselves, they will continue to shape and dictate the type of education given in the nation's schools, with disastrous effects.

The growing volume of indiscipline in the schools has been decried on all sides, but few constructive steps have been taken to eradicate it. Chronic indiscipline makes a mockery of education; unless the student is a true disciple of his master, eager and willing to learn from him, he will get very little real benefit from his years at school. The old authoritarian discipline went to one extreme, the latest 'free discipline' is tending to the other. Between the two, a golden mean must be found and enforced. The root causes of indiscipline are psychological

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and subjective, not objective; unless they are carefully investigated and appropriate remedies found, indiscipline will continue to be a bugbear of educators and teachers, and will thwart their best efforts to educate the youth of today.

One of the major causes of indiscipline is the frustration caused in the minds and hearts of many pupils who are compelled to fit themselves to a single academic pattern of education for which they are totally unfit. Children differ in age, ability and aptitude, and a sound system of education must provide a wide variety of types of education to suit a variety of children. Education must fit the child, not vice versa, and each child must be provided with that type of education best suited to his needs and abilities and interests if he is to find happiness and fulfilment. Education and vocational guidance at the school level, and diversity in curricula and methods are for this reason two of the most pressing needs of our time.

Finally, before any changes are made in our system of education, careful experiment and research are essential, for too rapid and hastily improvised changes might destroy the old system without putting anything better in its place. Research is the life-blood of education; it is absolutely essential if India is to make the best use of her limited resources and progress along sound lines. Such research must not be carried on in special psychological hothouses, divorced from the schools; the schools are the laboratories for educational research, which, to be fruitful and practical, should be carried out by expert psychologists in co-operation with experienced class teachers. Only thus will theory be tested, and practice enriched and fertilized by theory.

Such are a few of the more immediate reforms which can with advantage, and without any expenditure beyond our present means, be introduced into our national system. They by no means cover the whole ground, but, if carried out, will help to correct some of the most obvious deficiencies of our national system of education.

AUSTIN A. DE SOUZA

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BOOK REVIEWS

Ministry of Scientific Research and Cultural Affairs: *Cultural Forum*, Vol. I, Nos. 1 and 2 (Government of India Publications, September and December 1958), 9½″×7″; pp. 110 and 116 respectively, Rs 2·20 each.

Here is a journal which tackles a very elusive subject—culture. Today the word is much misused, so it is timely that a journal of this kind should attempt to clarify the concept of 'culture' and to eliminate cloudy thinking. As the editor herself puts it: 'The first task that *Cultural Forum* has therefore set itself is the enunciation of values and the definition of generally sensed but poorly understood concepts.' With this object the very first article in the first number asks the question, 'What is Culture?', and introduces an interesting symposium by 'thinkers and doers of different ages and various vocations from widely separated parts of India'. Some of them have interpreted culture in terms of faith, others as 'grace'.

The articles on Art, Architecture, the Theatre and Museums make interesting reading and we would recommend that illustrations should form a definite feature of this journal. The value of No. 1 is certainly enhanced by these illustrations, while No. 2 lacks them entirely.

Patronage for culture has always been a highly controversial issue and the editor is to be complimented on making a successful attempt to present two well argued but opposite points of view on this subject.

The second task of this journal is to become a forum for the public and to give it an opportunity to discuss 'elements in our way of life that may require to be altered or enlarged if our culture is to be preserved'. This is indeed laudable and if the journal succeeds we should look forward to interesting reading matter as the journal grows.

* * * *

RATNA NAVARATNAM: *New Frontiers in East-West Philosophies of Education* (Orient Longmans, 1958), Demy 8vo, pp. xviii+156, Rs 9.

The purpose of the author in writing this book is 'to bring to life some educational values which have worked as abiding forces and have continued to vitalize the Eastern and Western civilizations'.

The book is broadly divided into four parts. Part I raises some of the critical issues in educational philosophy in the framework of the human situation in general, viz. the ends of education, education and a country's development, methods of teaching, and specialization in modern life. It points out that there is great dissatisfaction with the present system of education throughout the world, and that some outstanding defects of education arise from our undue enthusiasm to perfect educational means and methods and forget all about the end.

Part II gives a bird's eye-view of the eastern educational philosophy, which is intended to plumb the hidden depths of the human mind. It proceeds on the assumption that the mind of man possesses latent powers which cannot be known, much less utilized, unless they grow through a training and a process of purification which stimulates and manifests the mind's dormant capacity. This principle inspired the yogic educational practice, which was advocated by the Upanishad, Mahabharata, and Ramayana, and was practised in the Buddhist universities.

Part III surveys, more generally, different influences in the West—particularly Greek civilization and Christian religion and culture. The contributions of secular humanisms of the West and the experimentalism of John Dewey also find a place in this section.

In Part IV the author focuses the readers attention on Indian Philosophy and education, and particularly on the thought and influence of Mahatma Gandhi. The whole is drawn together and discussed in relation to the problems of education in India and Ceylon.

This is one of the few books which tries to make a comparative study of Eastern and Western philosophies of education. However the book is not intended to be an exhaustive, weighty treatise on the subject, but is a brief, clear, practical approach written in a concise style.

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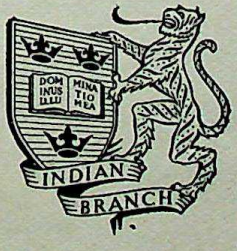
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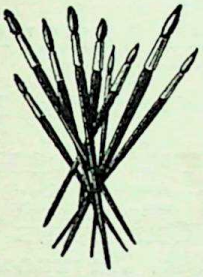


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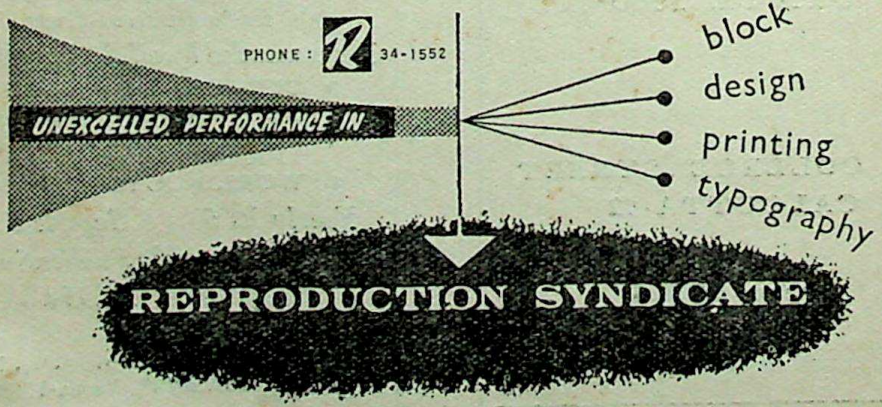
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Readings

INVEST IN KINDNESS

In spite of crime, cruelty, violence and strife which are deplorably prevalent in life, there is deep down in every man a yearning to sympathize and share in others' sorrows and lend a helping hand to those stricken by distress, disease or calamity. It is this fundamental goodness of the human heart that forms the basis of charity and brotherliness.

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Teaching

TEACHING

A QUARTERLY TECHNICAL JOURNAL FOR TEACHERS

Editor : MARGARET BENJAMIN

VOL. XXXII SEPTEMBER 1959 No. 1

Editorial

WE offer in this issue a few thoughts on various aspects of classroom technique. It is a little disappointing that more contributions were not forthcoming on a subject so vital to successful teaching. Classroom technique is something every school-teacher must be a master of, irrespective of the subject or the age-group which he teaches. Even the best of educational theories and philosophies cannot be fulfilled unless the teacher is expert in sound techniques.

It is not possible to discuss here all the aspects of this subject. We can only touch upon a few of them.

Classroom technique vitally affects discipline problems. The manner in which a lesson is delivered, the amount of planning and thought that has gone into it, the methods utilized by the teacher to make it more attractive, the kinds of visual and other aids used—all contribute to good discipline and the creation and sustaining of interest. Why does a class sometimes titter as soon as a teacher enters the room ? Probably a peculiar mannerism or a habit of speech, of which the teacher is unaware, is responsible. But more often than not a little effort can put this right.

The classroom is the place where the child spends a large part of his day. It would be interesting to know how many teachers give any thought at all to the appearance of this room. Are the desks arranged to suit the children ? Is the blackboard in a place and at a height visible to all of them ? Has the best possible arrangement been made in seating the large class within the limited amount of space available ? What pictures hang on the walls: have they been there for countless years; do the children ever *see* them; does the teacher ever talk about them ? Or are the walls cluttered up with crude and ugly charts and permanently littered with maps ? Appreciation of beautiful things—of form and colour—can be inculcated with the help of a tasteful decor.

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Periods in the classroom which are not actual teaching periods call for expert techniques. Such may be the weekly library period. We know of some excellent and progressive schools today where teachers still use this period to finish their composition corrections or to do such clerical work as marking registers. To the monitor or prefect is delegated the duty of issuing books, receiving and entering them. The usual formula for the library period is one standing order: 'Take whichever book you want and read it until the period is over (while I do my work!).' But the library period *can* be made one of the most interesting, dynamic and fruitful periods in the class time-table.

The training of monitors and prefects for responsible as well as routine jobs is an important factor in classroom technique. Time is lost and discipline can be upset if the teacher has not organized his class and distributed the routine work of collecting and handing out books, or if he has failed to store the classroom apparatus in the right places. There are a host of such jobs which can be done quickly, smoothly and efficiently, and the children are ever ready to do them if approached in a reasonable manner.

In most schools, large classes are today the chief bane of the teacher's life. A technique can be evolved which will occupy the advanced pupils and help the backward. By dividing the class into groups and by setting work at different levels it is possible to overcome the difficulties of class management.

A good teacher can evolve an individual technique for every facet of the child's life in school. Good technique can promote co-operation, enthuse interest, and reduce discipline problems to the minimum. Techniques must not be fixed or rigid. They must be flexible and they must vary not only from class to class but must change with circumstances and be capable of adjustment to any emergency.

Sound classroom techniques are the outcome of experience in dealing with children. They come with professional growth, and every teacher worth the name *must* grow in professional stature—from the time he emerges fresh from the training college until he reaches the end of his career.

The next special issue of TEACHING (March, 1960) will be on the Teaching of Geography.

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Classroom Discipline

THERE is always a lot of talk about discipline where there are disciplinary problems but sometimes the problem is most acute where there is apparently no indiscipline. Discipline, let us accept, means orderliness; now orderliness can be achieved in at least two different ways, one of which is as harmful as the other is beneficial. Orderliness in a family or class is a necessity as well as a convenience but it is the children and not the parents or teachers who are deeply and permanently affected by whatever methods are employed to achieve orderliness, exactly how they are affected depending on their individual psychological make-up.

Fear as a Means of maintaining Discipline

The symptoms of orderliness in the classroom are commonly taken to be industriousness and quietness, but quietness and apparent industriousness can easily be achieved by making the children afraid: afraid of punishment, afraid of parents' or teacher's displeasure and anger, afraid of failure in an examination. Fear, except perhaps in small doses, is one of the most stunting influences on a person's development and no teacher or parent ought to make regular use of it in order to achieve the kind of disciplined behaviour which he finds convenient. The habitual quietness of a child or a class should be regarded as a symptom that something is probably wrong and an indication that the methods or influences that have brought about the quietness were probably harmful.

A child or a class should be alert and co-operative, eager to express its views, inquisitive and, in proportion to age and development, it should feel responsible for its own behaviour. A child or class that shows these symptoms will certainly not always be quiet and it will not show these symptoms if its teachers or parents (or even prefects or monitors for that matter) have made much use of fear to enforce orderliness.

It therefore becomes clear that although orderliness is desirable and even necessary it may easily be bought at the price of damage to the child. Orderliness ought not to be thought of as an aim in itself but rather as the inevitable result of correct treatment. If a child can be made interested in the right things and if its relationship with teachers and parents is based on trust and affection instead of on fear (or 'respect' as it is sometimes called) then the right kind of orderliness or discipline will certainly follow.

The foregoing argument may seem trite but it is one which teachers and parents often ignore and understandably so if the teacher has to deal with an excessively large class. Nevertheless a large class does not compel a teacher to maintain discipline by fear

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methods. When the orderliness of a class is disturbed, in spite of good handling by the teacher, the cause can usually be traced either to previous classroom experiences of the group or to the behaviour of one or two individuals. It is not at all easy for a teacher to change, suddenly and without disturbances, the disciplinary handling of a class from a system based on repression to one such as I am advocating. Disorder will result as soon as the class feels that the pressure has been released and before they have learnt to discipline themselves, to appreciate the value of orderliness and to want to behave well simply because they like and trust the teacher. A difficult period of weaning is necessary before they are capable of enjoying the freedom of which so far they have had little or no experience. During this period the teacher will have to get to know the individual children in the class very well and will have to deal resolutely with any of them who are hindering the weaning process; he will have to make use of an effective penal system but he will also have to ensure as far as he can that others in authority (monitors, prefects and staff) do not upset his plans. For it is certain that the class will show symptoms that will not please ' disciplinarians ' who like a class to be quiet and amenable.

The chief reason, it seems to me, why indiscipline is so troublesome to university authorities is that at home and at school children are subjected to a far too repressive kind of discipline and that consequently when they reach the university, not having learnt responsibility for their own behaviour, they run riot. If universities should feel compelled to introduce a military form of discipline to enforce orderliness the result will be a denial of what a university education ought to be.

Activity Methods and Discipline

Perhaps the greatest obstacle to proper discipline is the unfortunate fact that children learn that school is boring and unpleasant, at the best that it is a necessary evil. Happily, the earliest stages in the nursery school are very often the best. In many schools play-way and activity methods are really being tried and found to work but when the child reaches about seven years of age it is usual for the gloom to descend and for the child to be subjected to formal classroom techniques which tend to stifle his capacity to be interested, blunt his imaginative and creative talents and smother his initiative and individuality of thought and expression. He has to do a lot of memorizing, but even his ability to memorize may be impaired because so many of the things that he has to commit to memory are, to him, uninteresting and unreal since they have no bearing on his everyday life and seem to him pointless.

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Activity methods in the lowest classes permit and encourage a child to do the things which interest him. At the same time they enable him to acquire, almost without being aware of the process, certain skills such as reading, writing and number work as well as how to behave in relation with other children. These are the classroom techniques which should set the stage for most of his school life.. At a higher level the terminology may be different, but social studies, and Basic education follow the same principle: 'Basic education lays down that learning takes place through activities and productive work and also through the study of and association with the natural and social environment of the child.' (Ministry of Education, Government of India, *Orienting Primary Schools towards the Basic Pattern*, 1957.) 'The curriculum should be so devised as to interpret the environment to the boys and girls growing up in it.' (H.M.S.O., United Kingdom, *School and Life*, 1947.) 'The active use of the local environment is the starting point for any school work.' (Dr R. D. Bramwell, Institute of Education, Durham University.)

Really believing, then, that an appeal to the child's capacity for being interested in things that are real to him is the keystone of your disciplinary system and that mutual trust and affection are the cement that will bind the structure together, begin to build.

Let us take for example the teaching of English. Perhaps I may be allowed to use the situation of an English-medium school whose children come from non-English-speaking homes. We are accustomed to see on the time-table of such schools 'English' and in some of them we may find 'composition', 'grammar', 'literature', 'poetry'. To begin with, it has now been proved beyond doubt that the study of grammar is not an aid to language learning (any more than it is the pupils' favourite subject) so let us start by banishing grammar as a separate subject except when it has to be studied in preparation for an outside examination.

Any language is best learnt by the use of it: by listening to it, speaking it, reading it and writing it. Every teacher knows that 'composition' is a necessary part of language learning, but he sometimes is apt to overlook speaking and to forget that his most important task is to choose the right pegs on which to hang his language teaching; in other words to select the subjects that his pupils are to talk about, read about and write about. If these things interest his pupils and if an understanding of them is beneficial then the selection has been a good one.

Such a selection may include history and geography (of the local environment in the early stages), number work, nature study, current

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affairs, local studies of all kinds, crafts and hobbies, in fact anything from religion to dismantling a motor-car. Any of these themes will almost inevitably lead to speaking, reading and writing and they can even be made to involve literature and poetry. During a course centred round such themes a child's capacity for being interested is stimulated, his intellectual powers are increased and he will learn English. What is more, the problem of discipline is also practically solved.

In Pearl Buck's novel *God's Men*, the teen-age orphan, Clem, goes to see the schoolmistress about Bump, the younger boy he has adopted and is looking after because Bump has not taken kindly to school. Clem tells the teacher: 'The law is on the teacher's side. But even the law can't make a boy get an education. It can only make him sit so many hours a day where the teacher is. He's got to like it before he can get educated.'

All classroom work, of course, like life itself, cannot be interesting. A teacher is responsible for training boys and girls to perform uninteresting tasks thoroughly and teaching them that there is a satisfaction to be gained from doing any job well. On the other hand classroom work, like life, should not be all drudgery, and teachers, parents and educational administrators themselves create problems of discipline by making education a predominantly boring instead of a predominantly interesting process. We teachers often condemn ourselves when we report on a child, particularly a young one, that he is 'lazy' or 'shows no interest in his work'. There are very few young children who do not show themselves wildly interested in things which might be expected to interest them. It is only later, when boredom and the monotonous grind of school work have extinguished the spark of interest, that we are justified, if ever, in complaining that a boy or girl is 'lazy' and 'shows no interest'. If the child does not 'like it' it is rarely the child that is to blame; he is merely showing a healthy and praiseworthy attitude which ought to be encouraged instead of being stamped out.

When we are faced with classroom problems of discipline we teachers ought to stop and remember Pearl Buck's words: 'He's got to like it before he can get educated,' and then to ask ourselves: 'If Bump doesn't like it, who's fault is that?'

MICHAEL VODDEN

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Punishments and Rewards—their Place in the Classroom

If schools were mere 'knowledge shops' and teachers 'information mongers' a teacher's work would end with delivering children parcels of History, Geography and Science and asking for them back again. But the teaching of a well-planned lesson is not the end—in fact, it is only one of the preliminary tasks of a teacher. Helping the individual pupils on their way to moral and social development is a more important duty. If all pupils were well adjusted to their classes and to their school in general there would be no likelihood of misconduct and no need for the adoption of remedial measures. In reality, however, conditions are far from perfect, and there is need not only for penalties in order to prevent the repetition of an offence, but also for positive incentives to right conduct. Expectation of reward and fear of punishment may be low motives for good conduct but they have a necessary place in the classroom.

Aims of Punishment

Why do we punish children ? Is the purpose of punishment purely vindictive, intended merely to show the connexion between wrongdoing and suffering, or purely exemplary to warn others and prevent repetition of the fault ? Or is it meted out with the purpose of reforming the offender ? By adopting severe schedules of punishment a teacher cannot hope to produce the best-behaved pupils. Children should feel the necessity and value of punishment. Self-government in schools helps a lot in this direction, but sometimes the pupil-committees err on the side of severity and self-government declines into a punishment agency. Severe forms of punishment may deter the offender and the other children from committing wrongs, but they will not reform them by developing socially helpful conduct.

The punishment should make the pupil realize that he has committed a wrong which he should not have done. It should make him sorry and should help him to recognize the necessity of re-adjusting his relations with his classmates. It should help the offender to improve and this can only happen when he feels sorry for his conduct and makes up his mind not to commit the offence again. The teacher cannot have a rough-and-ready plan of punishment for all alike. Sometimes the offender feels regret and repents for his conduct even before he is punished for it. In such cases punishment is not necessary.

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Kinds of Punishment

Generally speaking, there are two different kinds of punishment. One consists in actual infliction of pain or deprivation of enjoyment. Not being allowed to join a school excursion, a cut in pocket-money and no ice-cream and chocolates for a month are a few examples. Punishments may also take the form of a glance of rebuke, a word or tone of anger, disgrace or degradation in the eyes of others and loss of office or confidence.

The milder forms of punishment are most effective when given in time and should always be preferred to the others. A mere look and a slight change in the voice are often sufficient for a teacher whose personality and authority are respected by the pupils. While the eye commands respect, the voice should not be used. If the fault is serious or persistent, a strong reprimand becomes necessary. On no account, however, should a teacher make comparisons with other pupils, for it only inculcates in the offender a feeling of hatred for the pupil with whom he is compared.

Punishments intended to work on the sense of shame seldom succeed. By making a child go round classes with a fool's cap on his head or a slate round his neck you are trying to prevent wrongdoing by making fun of it. Using sarcasm and ridicule are also very unwholesome means of correction. Such tongue-lashing only weakens the pupil's self-respect, and anything that tends to destroy their self-respect will do more harm than good.

Setting tasks for punishment is also an unhealthy practice, for then the teacher reveals that, according to him, learning a lesson is a kind of servitude. On the other hand, there is no objection to making a child finish a lesson in play hours, for in this case it is not the lesson which makes up the punishment, but the spending of so much time which was formerly wasted.

There was a time when the writing of lines was a very common form of punishment and was often meted out thoughtlessly: 'Not done your Arithmetic homework? Write 400 lines for tomorrow!' 'Can't sit quiet in class for two seconds? Write "I must keep quiet in class" 1000 times!' 'Forgot your Grammar book? Write 500 lines!' More often than not, such lines are written by the offender's friends who treat it as a big joke. At other times, boys practised writing lines (which were usually completed by copying individual words vertically) with two pencils in their hands, so that two words could be written simultaneously. Since it has been proved that writing lines has no deterrent value, it is fruitless to give such a punishment.

Asking children to copy passages of prose or poetry from text-books by way of punishment is the surest way of creating in them a

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feeling of disgust for such passages. It is a practice which will undo all that the language teacher may have striven to do towards an appreciation of literature.

Making the offenders pay fines should also be avoided, for a very small percentage of the pupils get pocket-money to pay them from, and therefore such fines only hit the parents.

Children should not be made to do menial work by way of punishment. By making the offender sweep the classroom or dust the desks, for example, the teacher is indirectly helping the children to consider such work as low and mean. Anything that destroys the sense of dignity of labour in young children is most harmful.

Whether corporal punishment should be administered at all is a very debatable point and some orthodox teachers still feel that it is very effective in the case of some persistent offenders. But this form of punishment degrades both the person who inflicts it and the one who receives it and should be avoided now that we know of more effective methods.

Experience has shown that it is best to avoid inflicting mass punishments. On certain occasions a class has to be punished as a whole, but many a time the punishment loses its force. The children feel that they are all equally guilty and the punishment which was meant to be rather unpleasant is now a source of enjoyment. Dealing with the class as a whole works well in the primary school. The teacher promises to make the children play an interesting game or tell a story in the last period if the class-work during the day is satisfactorily done. Lest they should miss the game or the story, the children not only try to do their best but also keep a good check on likely offenders.

Individualization is as necessary in punishment as in other class-work. We know from experience that a particular punishment which may act as a deterrent to one child may not have the slightest restraining effect on another. For some children with unhappy homes, staying late in school is an enjoyable experience. Certain children who are expected to help their mothers after school may welcome the idea of staying in after school and may inwardly thank their teachers for affording them the chance of avoiding work at home.

Talking of homes, parents could help a lot in making punishments effective. When a child complains at home about a punishment inflicted in school, the parent who is too busy to bother about the other side of the story often blames the teacher for being unjust. Such hasty conclusions not only belittle teachers in the eyes of the young pupils but make the punishment lose all its value.

As far as possible, punishments should be proportionate to the offence. Take the example of a group of children playing in the

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school reading-room. One girl smashes a window pane while another has the misfortune to break the beautiful china vase that decorated the centre of the reading-room table. If in both cases the breakage was unintentional, is it right to punish the second girl more severely than the first merely because the vase was worth much more than the pane? In both cases the offence consisted in playing in the reading-room instead of on the school playground. If the second child is punished more severely on the plea that she has broken something more expensive, the punishment would be proportionate not to the offence, but to the result of the offence.

Besides being proportionate, punishment must also fit the crime. This is not always easy in practice, but it is certainly not impracticable. The punishment for late-coming could be late-going; for doing an exercise badly, repeating it well; for wasting time in class, forfeiting some hours of play; for lack of cleanliness doing some cleaning, and for spoiling or breaking another's property, replacing it at one's own cost. The withdrawal of privileges is another very effective form of punishment. It consists in the loss of honour. Good conduct is always expected and should be assumed. But pupils are also offered other privileges such as acting as prefects or monitors or electing their own house captains. Deprivation of such privileges is a natural and perfectly justifiable punishment for the lack of a sense of responsibility. Demotion from a position of responsibility should be resorted to in cases of very serious offences only, and as far as possible should not be done without warning.

Thus the teacher has the great problem of administering punishments justly and suitably in order to achieve the purpose of reforming the pupil. Instead of applying penalties indiscriminately the teacher should analyse every kind of disciplinary trouble and try to discover its cause. Take the case of lying, for instance. Does the pupil lie because he is unable to distinguish between fact and fancy or does he do it deliberately with a view to deceive his teacher? Accordingly the teacher must either give him training in the exactness of observation and fidelity of report or administer to him an effective form of punishment to put things right.

Cases of stealing are also very difficult to treat. In most cases intensive psychotherapy and a modification of the home environment is necessary. But the teacher can give a helping hand by arranging for more pocket-money to be given to the boy who could call it his very own. This would satisfy his inherent desire to possess something as his own personal property, and thus help to minimize his need to steal.

Many children do not show any progress in their studies. 'You have got all your sums wrong. I don't know what to do with you!'

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'Oh dear, dear! When will you learn to analyse a sentence?' 'You are making up your own Mogul History!' How often have similar words been addressed to children who never seem to do well in class! Many such children develop in themselves a resentment against studies which subsequently results in neglect and backwardness. Very often this resentment is the result of fault-finding and unfavourable comparisons with classmates. Instead of meting out doses of punishment indiscriminately the teacher should take an understanding attitude, and give due praise to the child's achievements. Very good results are achieved if success is emphasized more than failure.

In many cases of serious maladjustment, the help of a psychologist is needed, but the experience and common-sense of an understanding teacher can go a long way in helping a pupil to form his individual character.

Rewards and Incentives

It is not enough to check impulses in children; they should be re-directed into desirable ones. Thus the need for positive incentives to right conduct arises. As children love to win approbation, a word of praise or commendation, wherever due, goes a long way in enhancing their interest. But praise, too, should be used economically. Some teachers tend to be profuse in their 'Excellent' and 'Very well done' with the result that they give the impression of being insincere. The desire for distinction and wish to excel one's classmates is also strong in children. Election to positions of honour and responsibility, such as Monitor, House Captain or Secretary of a school society, are rewards of sustained good behaviour. Exhibiting a particularly good piece of embroidery or painting done by pupils also furnishes a great incentive to further effort.

Ethically, the desire to win a material reward may be a low motive, but experience has shown that it can prove very effective. Many schools have fixed prizes and scholarships for various subjects taught in class, but these are no real incentive to the whole class, for only the top two or three can hope to win them. If, however, the pupils in the class are very close to one another in ability, prizes are very effective. It must be admitted that prizes stimulate the competitive motive, and add zest to work. But very often the individual aims more at defeating a rival than at achieving a higher standard. Group competitions, however, are free from the undesirable features of individual rivalries and could at intervals be safely encouraged. Again, the prizes often reward the result rather than the effort. A child may make a serious and sustained effort and yet fail to get the prize which another, more intelligent, wins without any effort at all.

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Rewards should be as few as possible and should not be very easy to attain, for they then lose their value. Teachers of primary classes could, however, use this incentive frequently. An old Christmas card, a beautiful picture, a couple of stamps, a decorative tin are prizes that small children love to win. It should be the effort of every teacher to get the children to love the lesson rather than the reward. As rewards are after all marks of recognition, there is no need for costly prizes that are out of proportion to the merit of the pupils. This does not mean that valuable prizes should never be given. In order that they may not lose their value they should be reserved for cases of special effort or excellence.

Certificates of regularity and punctuality awarded for an unbroken record of regularity and punctuality would serve as an incentive to many children who would otherwise remain absent from school for petty reasons, but the system of giving rewards for good conduct is objectionable. Good conduct is normally expected of all children—why should incentives be given for it ? Besides, it is not always easy to determine whether a child is really good or whether he has merely been behaving well in class because his cupidity for a valuable prize has been aroused.

The highest and the best form of motivation to effort is doing right because it is right and worth doing. This level of appeal is indeed very high and should represent the ideal towards which all should strive. If a teacher watches those offences which occur often and improves his class technique so that temptation to wrongdoing is diminished, many offences will be prevented. The teacher should be vigilant without being severe and the general opinion of the class should be so formed that the pupil who does wrong himself becomes unpopular.

MANI D. ENGINEER

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Homework in Schools

Homework as a Substitute for Teaching

THERE are fashions in educational theory and practice as in other fields of human activity. This fact is clearly evident in the changing attitude to one of the hardy perennials in the school programme, homework. Time was when large doses of homework were a 'must' in educational practice, and a regular part of the school programme. Parents swore by its utility for, if it did nothing else, it kept their young hopefuls quiet for an hour or two a day. Teachers regarded it as one of their most effective teaching aids, and made certain that homework notebooks were carefully filled in before the children left school after the day's work. The only ones to object were the children, but scant attention was paid to their point of view. There is no doubt that homework had its uses. As a means of testing the efficiency of the day's teaching, homework served a useful purpose. This utility was often considerably reduced by the fact that the homework was not infrequently done by parents or tutors, or cribbed from the cleverer and more industrious pupils in the class. But further claims were made for the efficiency of homework which were more debatable—that it developed the mind and character, and improved scholarly ability and attainment considerably.

Such claims often led to homework being given a disproportionate place in the child's total education. The depressing picture of young children of six and upwards, struggling with a pile of unpalatable homework when they should have been playing in the fresh air outdoors, became only too common. Homework, in fact, instead of being the complement and completion of good teaching, very often was, and still is, a substitute for it; and too much homework given too often and too early in the child's career often led to stunted minds and bodies instead of the *mens sana in corpore sano* which is, or should be, one of the foremost aims of a sound system of education.

The Other Point of View

This overemphasis on homework was bound to lead to a reaction; this reaction when it came, like all reactions, tended in its turn to go to extremes. Homework was denounced as an unmitigated evil, and progressive educationists began to demand that this grim spectre should be banished, once and for all, from the lives of schoolchildren all over the world. To strengthen their case enthusiasts of the 'No Homework' campaign, which started in the United States and spread to other countries, carried out a series of experiments with 'control' groups which were given daily assignments of homework

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and ' non-control ' groups of equal ability and intelligence who were not given any homework to do. As a result of these experiments the reformers claimed to have exploded many of the current fallacies about the value and efficacy of homework, and a strong case was built up in favour of its suppression. The ' No Homework ' enthusiasts stated that, far from being an asset, homework was a serious drawback in the proper education of the child. They denied that homework improved children's minds or scholastic attainments or that it was an important and healthy means of training character. They rather felt that it made learning distasteful and burdensome, generally raised unhealthy feelings of resentment and frustration, and killed the child's natural incentive to learn. Further, homework placed too much stress on individual study to the neglect of the equally important methods of class and group learning, and set up strains and divisions between the home and the school. Hence on the grounds that it tended to do more harm than good the reformers were of the opinion that it should be stopped forthwith in schools and other educational institutions. Their advice, backed as it appeared to be by scientific evidence, was eagerly taken by progressive schools, and the 'No Homework' campaign had its crowded hour of glory in many quarters.

But the reformers went too far and too fast. Their advocacy of the total banishment of homework from the schools was resisted by parents, and by the more conservative sections of the teaching profession, not all of whom were diehards and reactionaries.

Further experiments were carried out which disputed the theory of the reformers. Parents and community organizations pressed the schools to reinstate homework.

The Right Approach to the Question

At the present moment it appears as if the reformers, after winning the first battle, have lost the war. But their efforts have not been in vain, for, by bringing the accepted notions of homework into the limelight of healthy educational controversy, they have made possible a much more rational and common-sense approach to this vexed question. The present consensus of opinion among the more balanced section of educationists, with which the writer is in wholehearted agreement, is that homework has a necessary and a useful part to play in the education of the average child, provided it is sensibly handled. Homework, if properly supervised at home, can improve a child's scholastic attainments, help to realize his intellectual potentialities, and, if it is kept within limits and is of a creative rather than a routine nature, can also help to promote character and personality development. Difficulties and tensions between home and school

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caused by homework can be avoided by proper co-operation between parent and teacher and, though too much stress can be placed on it, there is no doubt that individual study and learning is a *sine qua non* in the education of the average child. Class teaching, aiming as it does at a mythical average boy or girl, is generally too fast for the slow and too slow for the fast. Homework can redress the balance by enabling each child to learn at his own rate and in his own time, and accordingly it helps to cater for individual differences which are only too often neglected in a class or in a group.

Homework is therefore extremely valuable, provided it is carefully planned and regulated, both quantitatively and qualitatively, and adapted to the varying individual needs of children of different ages, abilities and aptitudes. This can be done in the following practical ways.

Homework should be carefully planned and graded throughout the school. Up to the age of ten the child should do almost all his work in the classroom with the teachers; homework should seldom be set, and, if it is, confined to the barest minimum. In the junior school, homework of one to one-and-a-half hours' duration should be adequate; and in the senior classes it may be increased to about two to three hours at the most.

Homework must be Creative, not a Routine

More important than its duration, however, is the nature and quality of the homework assignments; if dull, repetitive work predominates, even two hours' work will be too much of a mental strain; but, if the homework set is of an enjoyable and creative type, the children will work at it without undue fatigue for three or more hours. Further, one should guard against the common practice of setting only memory or practice work, or work of a purely routine kind.

Not all homework assignments should be based on books; they should be varied as much as possible and scope allowed for the hands and the heart as well as the head. Drawing, creative writing, craft work, map work, the making of models, and the fulfilment of projects will provide that variety which is the spice of learning as of life, and make homework a joyous activity instead of a dull, monotonous, time-wasting and soul-destroying task. Again, homework assignments should not be identical for all—the dull, the average and the clever—but should be differential in character. They should contain a maximum and a minimum amount of work to be done—the latter for the dull and the former to encourage the clever, enabling both the clever and the less able to do work suited to their abilities, and encourage them to advance at their own pace and to

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tackle work at their own level. Finally, it should be remembered that a small assignment of homework well done is far better than an overdose completed in a shoddy and slovenly manner. The penalty for work badly done or work not done at all should be to make the child complete his task after class under the teacher's supervision. This will eliminate excessive anxiety or fear on the child's part, because he will know in advance the price he will have to pay for homework undone or badly done. The punishment will fit the crime, and not be arbitrary or excessive or merely retributive.

Supervised Study

Unless they are simple and self-explanatory, homework assignments are bound to raise problems and difficulties for the solution of which the child will need the help of adults. Hence proper supervision, enlightened help and encouragement from parents and guardians are usually necessary. Unfortunately the help given by parents and guardians is generally too much or too little, and homework is often done under unsuitable conditions. A movement is growing in some quarters to substitute supervised study in the schools for homework, on the grounds that by this device the child can do more work in less time because he works under better conditions and under more expert guidance. Supervised study at schools, especially at day schools, has always existed in many teaching establishments. If conducted in the proper way it has much to commend it and can become an essential complement if not a substitute for homework. Where such study has been introduced it has proved highly beneficial, though it imposes an additional strain on the teachers which should be taken into account in the planning of their personal teaching load. There is really no essential difference between supervised study and homework, the former merely ensures that the homework set is well done.

Homework in one form or another must continue to form an important element in the education of the child, but teachers and educationists should not expect too much from it, or carry it to extremes, for, like many other educational tools, it is a good servant but a bad master.

AUSTIN A. DE SOUZA

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Project Technique in Citizenship Training

THE inclusion of Civics in the school curriculum is intended to stimulate interest in human affairs with a view to socializing the mental outlook of the young learners. This subject is indeed the backbone of social studies in the school, and if it is to function as such, care must be taken to see that our attitude towards it is not examination-centred. It should rather be 'life-centred' in the fullest sense of the term. With this end in view it is necessary to reconsider periodically not only the content of our lessons but also the technique of our approach to the subject.

The usual 'chalk and talk' type of instruction does go a long way in laying the proper foundation. As we progress to higher classes we introduce class discussions and debates to direct the students' thoughts, interests and attitudes through socially approved channels. Somewhere in the ninth class, however, we find that oral teaching does not have much effect. On the contrary we notice that the first flush of enthusiasm has spent itself and that the law of diminishing returns is beginning to operate.

Once this stage is reached, it is time to introduce a change of technique that will prove fruitful in securing not only fresh enthusiasm but also a fresh surge of progress. For authoritative guidance in this respect we turn to Professor J. C. Hill who says: 'All pupils do not get oral expression in the time available and written expression should therefore be used. Let every pupil write a book on citizenship. Let it be his book, and treat it with respect.'

Now, if fresh inspiration is to come from expression in writing, and if each student should write a book, the class must be taught how to write a book. This reflection leads us to start project activity in the classroom, and the purpose of this article is to show how, by engaging the class in the production of a class magazine on a well-chosen topic of civic interest, the requisite upward curve of progress can be secured and a fresh impetus given to the teaching and learning of citizenship.

Some Topics for Projects

For the present purpose a project may be defined as 'a whole-hearted purposeful activity proceeding in a social environment'. A wide variety of projects can be executed in the classroom and magazines or booklets written on many a topic such as: (1) Cleanliness in and around the school; (2) Municipal administration; (3) Municipal workers; (4) Sacrifice, its nature and variety; (5) India's great citizens of yesterday; (6) India's great citizens of today; (7) The

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possibilities of social service in the school; (8) Illiteracy as a social evil; (9) The causes of poverty; (10) Hooliganism as bad citizenship.

Let us take one example, namely 'Hooliganism as bad citizenship', and see how a useful project can be made within a given time in a social atmosphere available in the classroom.

Motivating the Class

We are imparting today an education for democracy, hence it is essential that the teacher takes the class into her confidence. The pupils have not to be provoked but persuaded, since a project is a 'purposive' and 'co-operative' concern.

All goes well, however, when the students see that they are going to learn something new, that is, how to write a book. The acquisitive instinct of the children is roused by the suggestion that each pupil will be given a copy of the booklet produced by the class.

The interest thus aroused gains greater strength when it is explained that the contents of the booklet should be handled so well that the material produced will be worthy of being published in the civics section of the School Annual.

The students are further informed that the question papers in the examination will be so set that those who give their full attention to the project work will undoubtedly fare well in the examinations or tests that are to follow.

The maximum responsibility is thrown on the students, the teacher acting more as a guardian and less as a guide. The pupils suggest, discuss and decide the topics that can logically be brought under the given title.

With common consent four class periods are set aside for the working of the project, and within a short time of serious discussion the contents of the book are finalized as follows: (1) Foreword by the teacher; (2) Preface by the best scholar; (3) *Articles:* 'The Meaning of Hooliganism', 'Hooliganism in Train Compartments', 'Hooliganism on Sports Fields', 'Are the Homes to Blame?', 'What can the School do?'; (4) Two pages of photographs; (5) Two pages of cartoons; (6) Letters of good advice to a hooligan; (7) Book reviews.

The Class at Work

The class is now divided into several sections. The work is so distributed that no one student remains idle. They work as joint writers of the preface, articles, letters and reviews, as editors, artists, cameramen, and binders. The class functions as a hive of intense and varied activity.

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The children do the rough drafting in their own exercise books, but the paper for fair work is supplied by the school. This paper is blank and it is neatly ruled with the thumb nail.

The photographs should come at the end as the cameramen may have to wait a long time to click relevant scenes of hooliganism which will finally appear under the caption, 'This is bad!' However, the cameramen do not remain idle at other times as they are partners in the entire project.

The Role of the Teacher

The work of the teacher is minimized as far as the usual routine of class-teaching is concerned; but it is increased in other directions such as thoughtful planning, understanding the implications of paedocentric teaching, the techniques of self-help, expert operation of division of labour, guidance in matter and manner of expression, and proper control of the time factor.

The teacher must have at hand a number of carefully selected specimens of prefaces and reviews to help and inspire the students in these sections of the project.

As we insist on a simple, concise, and natural style of writing, the teacher must provide suitable aid-books as well as magazine articles which will serve as models.

As regards the students' difficulties in spelling, much trouble is saved by making them refer to the dictionary. A collection in type-script of common words usually misspelt by children goes a long way to diminish the strain on the teacher in this respect.

Quite a few students confess their inability to develop the themes at which they are working. The teacher's knowledge, tact and erudition ought to inspire self-confidence in the young writers very quickly.

Further, the teacher must be sure and quick in her approval or rejection of the cartoons and other illustrative matter. Much time and waste of labour may be saved in this connexion if rough sketches are first made on the blackboard in the presence of the teacher.

Another idea is to make the weaker students take the help of abler ones, thus putting into operation the great principle, 'from everyone according to his ability, to everyone according to his needs'.

Advantages

In conclusion, we observe that this kind of classroom activity, in addition to creating sound pupil-pupil and pupil-teacher relationships, lends fresh vigour to the children's interest in civic matters.

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Besides, the project approach obviates the need of setting home tasks because the students automatically complete the unfinished portions of their work after school hours.

Incidentally, the pupils imbibe the qualities of self-help, perseverance, co-operation and service to others. The great advantage is that the children learn not only the art of living but also the art of writing. The training thus imparted is so effective that the average student feels he can now write a book of his own on citizenship, while quite a few students develop a flair for writing—an asset valued as much in the school as in later life.

THERESA FONSECA

Arts in the Classroom

GENERALLY speaking the education of small children of preparatory school age leaves much to be desired. There is too great an emphasis on academic subjects and not enough emphasis on the arts, wherein the vitality of life lies. Simply speaking, vitality of life means finding satisfaction, harmony, pleasure and interest between yourself and the rest of the world. A large number of teachers are not aware of the great deal that can be done in inspiring confident living in children.

Overcrowding of classes is one of the first obstructions to this. Twenty children to a teacher is plenty, and this is especially true of small children. If the number exceeds twenty it becomes obvious that the teacher has to rely on intimidation to get the peace and quiet she must have to teach anything. In cases where two teachers handle forty children, often one is trained and one is not. The second teacher can be made use of with more advantage than is generally realized. For instance she can give special attention to the handful of children in every class who need special care. The children who dominate, the children who are too submissive, the children who cannot concentrate—all can be given a more extensive programme. Let the assistant help those few do their required work and then take them for extra art or craft or story-telling, or something that will establish a more personal relationship with the teacher and with the school, thereby giving them the interest in co-operating that they may be lacking in. If this takes too much organization, the assistant teacher might, for instance, pass all the pencils that

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need sharpening to the child who wants to dominate. Let the submissive child handle some important job, too; but he has to be tactfully persuaded into it. It is advisable at times to flagrantly admire the work of the wool-gathering child. A great deal of finesse is needed for all this. Too often the case is that the assistant teacher only assists the teacher in maintaining her authority. Needless to say, so many children are eager to learn and are happy to be in school that it is a shame to have the whole class slowed down while the few are catered for.

Learning through Activity

A child will concentrate through the pleasure he derives from an activity before he learns to concentrate on academic subjects. He may not yet know how to keep his mind on his learning subjects, but if he wants to draw a train with a diesel motor, pulling a passenger car, an oil tank car, a coal car, a refrigerator car, a stock car and tractors on a flat freight car, he has to keep his mind on his work. He will be eventually proud of himself and his work and get a lot of satisfaction out of it. Art is one of the activities by which the level of concentration of the child can be raised.

Harmony is another purpose of art. Children have surprisingly suspicious attitudes toward each other. Simply set them working together in twos or threes and give them the opportunity to realize that the other children are mostly like themselves. The sharing of ideas is important in art. The children should give and take freely from each other. I often tell the children to take someone else's idea, to put themselves into it and make it their own. Naturally that is quite a different attitude from the attitude required to do classroom work. All children are interested in doing a good job of growing up and it is a big mistake to be anything except encouraging.

Art Programme for Children

I would like to mention a few successful art programmes for children. Actually very little is required in the way of training to give small children an adequate art programme. I must emphasize again that little can be achieved if there are more than twenty children in the class. The least expensive materials for art are wax crayons, Japanese-made at 50 naye paise a box. The coloured pencils commonly used in India are not really very suitable for children. Paper is required, and must flow freely to the children. Even though a few will appear to enjoy only the process of going up to the teacher, asking for and getting more, most children work sincerely, and in some ten to twenty minutes a five-year-old is genuinely finished with his drawing. The teacher will often keep the child fussing

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with his drawing as she is too busy or has no more paper. Naturally this is not recommended. Incidentally the child may have a long story that he has been telling himself while he has been drawing and it is quite likely that he may want to share it with the teacher.

In case wax crayons and a large quantity of paper are not available, I find paper sculpture interesting; but this should not be indulged in too often. The children love to paste and build. A surprising number have never learned this simple technique. Wheat-flour paste is cheap and very good. The teacher must cut old newspaper into strips of almost any size and into rounds as well. Cut them freehand; it is absurd to use a stencil. The children can make paper-chains, bridges, railroad tracks, ladders. They ought to work three-dimensionally, but some will paste only the flat strips on a big piece of newspaper in the shape of a house. Many children will do as the teacher demonstrates; others will quickly develop their own ideas. All encouragement and freedom should be given to those who have their own ideas. The teacher must watch and guide or push those who are hesitating and those who are wasting time.

Scissors are a big addition to a classroom. I find many children have never learned to cut. It is important to have enough to go round. There are endless uses for this tool.

Clay is a wonderful medium for children. It can be made cheaply by mixing mud and straw, or the powdered clay that you mix with water is ideal. Clay has to be damped when it is being used. It is a material which is best used outside the classroom. Children love the feel of clay and the power they have to push, pull, flatten and pound it in any direction and at will. They should have as much clay as their two hands will hold; but the tendency is, unfortunately, to skimp terribly on the amount of clay each child is given. They can make people, animals, houses, in fact anything. The work will look pretty inarticulate to an adult but when the child looks pleased with his work, that is the time for the teacher to admire it. The clay can be used over and over again, by adding water to it and letting it soak for several days to an even consistency. Not only is clay used as sculpture but also as cement (speaking figuratively of course, as it washes out of everything and is harmless). A child can layer rocks together with clay between to keep them stuck together. Small twigs can be set in the clay to form a fence. Leaves placed upright in clay make another pattern. Whole scenes are quickly built this way. The play and harmony that this leads to is wonderful to see.

Painting means a lot to children. The most inexpensive paints are the powdered pigments sold in shops during festival times. This pigment is mixed with wheat-flour paste, to any consistency you

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may choose. Brushes are required and can be had for 12 naye paise each. This paint is also harmless and can be washed off easily. The simplest way is to have several brushes in the tin of yellow paint, several brushes in the tin of blue paint, and so on. Then have six or eight children around each of these paint tins. For a long art period children can use crayon first for the drawing and then paint it. Each painting can assume a very complete look this way.

To get small children interested in art the teacher need only talk and get the children to talk. Then she needs to admire their work and put it on the bulletin board. She will have to give her art lessons her full attention, but it is a simple task if the teacher is herself genuinely interested.

As children pass the age of 9 or 10 years, their art programme should be more instructive and the teacher has to plan a more definite programme to capture and maintain their interest. If the teacher sticks strictly to form in art, teaching perspective, proportion, colour chart theory, which is what the children want, their work oddly enough soon becomes uninteresting, and so it is necessary to rely on gimmicks to maintain interest. For instance, prescribe a still life for one period; and portraits using a student as a model, quick sketching (memory test), a plan of the building, and a 'free choice', on successive art periods.

A surprising amount of learning can be gained through drawing. And there are better subjects, I think, than the usual ones mentioned above. For example, ask the child to show how a submarine works, the variety of ships that sail the ocean, how aeroplanes are jet-propelled, nature lore of any kind, photo-synthesis, the ageless warring of the black and red ants. A child of 10 can be quite precise in drawing the fierce jaw of the black ant. The plant, insect and animal worlds are held in great awe by children. It seems good sense, at this age, to lump art with natural and mechanical science. If a child is bored with his work, his work will show it. But if the teacher thinks of art as interesting and important, she can add a lot of vitality to the school curriculum.

LINDA RATHOD

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Appreciation—its Creative Role

APPRECIATION plays an important role in all aspects of school life. It is equally important for teachers, administrators and pupils. 'There is no appreciation' is a complaint frequently heard from teachers regarding their superiors. With equal if not more justice many pupils would make the same complaint about themselves if they were to ventilate their grievance in words. Generally speaking, boys and girls who are neglected do not express their grievance in words; they do it through their conduct. One of the common observations made by distinguished persons who address university convocations, and by less well-known local leaders how preside over school and college annual gatherings, concerns lack of discipline among students. It is often forgotten, however, that lack of discipline is closely associated with lack of appreciation.

Appreciation and Discipline

In a school where teachers deal with pupils as individuals who deserve to be encouraged and appreciated, rather than domineered over and censured, teacher-pupil relations are healthy, and the problem of discipline is easier there than in other schools.

Most of our educational institutions are overcrowded, and the teaching staff is not adequate in number to give the pupils individual attention—even if it is granted that teachers have on the whole the necessary moral and intellectual qualities to develop the best in every pupil.

Again, in former days when schools were not so numerous as they are today, only a few persons became teachers, and many of them did have a sense of vocation. Today the number of schools has increased so phenomenally that an army of young people, if they have the minimum qualifications, are recruited into the teaching profession, so much so that education is becoming an industry. Where vast numbers of people are recruited, it cannot be expected that they should be far superior in moral and leadership qualities to the average person. Without high moral and spiritual qualifications, it is difficult for persons to appreciate the good that is in their neighbours, much less to love the unlovable. As a matter of fact many of our students appear to superficial observers as very unlovable people, especially in their adolescence.

Adolescent folk often have sterling qualities, but it requires an appreciative understanding on the part of others to bring these qualities into the open. It is said that love is blind; it is so when infatuation is called love. But true love is an eye-opener: it reveals to the loving person vast possibilities in the one who is loved. And where there is no love, appreciation is not possible. The secret of

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discipline therefore is appreciation, and the secret of appreciation is love.

Appreciation of the best kind, and this is true of love also, is spontaneous. There are some persons who seem to have a genius for appreciation: they seem to care for others spontaneously, without any effort. They are endowed with a special aptitude to see the good in others. But those who do not have this unusual capacity can cultivate it. It is sometimes said that teachers are born, not made. If there is any truth in this statement it refers only to the geniuses in the teaching profession. Most teachers are made, they are ordinary people who learn the art of teaching and become better teachers through training. In the same way all ordinary persons can learn the art of appreciation as a rule of life.

Appreciation and Studies

Appreciation plays an important role in the school not only in maintaining discipline but also in the promotion of studies. It is contended by exponents of para-psychology that even plants respond to the good or evil thoughts directed at them. It is claimed that when the experimenter directs a stream of good thoughts and blessings at a row of seedlings, they thrive better than other plants in the same field, whereas the growth of a similar row of seedlings treated with unhelpful and adverse thoughts is less satisfactory. The findings of Dr Rhine and others may not have reached the stage of general acceptance by the scientific world, so far as botany is concerned, but their findings are in keeping with what thoughtful people observe in regard to the progress of young folk in the schoolroom. The boy whose work is praised tries to do still better. He therefore puts in more practice, and such practice is rewarded with still greater achievements.

Teachers, and parents too, are sometimes unwilling to praise their children. They are afraid that children may become vain through praise. Indiscriminate or inordinate praise may be harmful; but the harm done by praise is often much less than that done by unsympathetic criticism. Human beings everywhere crave for recognition and appreciation. When we practise sympathy, many of our difficulties with people are removed; and the personal attitudes and the quality of work of our neighbours are improved. Children and even adults learn better with teachers who appreciate their performance than with those who are indifferent to it.

In teachers' colleges a common topic of academic study is 'transfer of training'; and one of the questions that is usually put by university examiners at the B.T. or B.Ed. examinations is: How far is training in one field of study effective or useful in another? After the university

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examination is over, very few candidates think of this; they even forget that they ever studied the subject. But this study of the transfer of training is of high practical value to the teacher. In the matter of transfer-value it is the attitude that the teacher fosters in his pupils which is more important than mastery over the subject. If he inspires in his pupils an enthusiasm for one subject it is likely to spread over other fields of study and life-interests. In other words, it is the personal factor that is at the bottom of progress—the personal enthusiasm and keenness of the teacher being communicated to his pupils, who carry over their enthusiasm into whatever they undertake within the school or outside.

Appreciation in Games and Sports

Appreciation plays an important role in developing skill in games, athletic performances and other extra-curricular activities. One of Thorndike's laws of learning is the Law of Effect. The more satisfaction one gets out of doing a thing, the more progress made in it. Satisfaction is of two kinds: one, which a person feels within himself on account of having achieved something, and the other which he feels when other people praise and appreciate his work. Coaching in the field of sports was neglected in the past, but is now engaging the attention of all sports-lovers in India. Coaching is not only a matter of practice, but also of discovering talents; and when talented young persons are discovered, they feel a high sense of satisfaction and do their best to justify the faith and appreciation of their selectors.

What is true of sports is true of all other spheres of life. Though it is true that men of genius overcome their difficulties more effectively than ordinarily endowed persons, we may as well recognize that many 'mute inglorious Miltons' fail to cultivate their great gifts for want of opportunity. Conversely some of the successful poets, musicians, painters and actors were able to win the respect of the world on account of the start they were given by those who recognized their talents.

Attitudes of Teachers

It is not only the specially gifted who profit through appreciation and encouragement. 'Even avowedly backward and dull children,' as I have observed elsewhere, 'brighten up and put forth fresh and successful efforts, when by taking part in a common venture they realize that their services are not only permitted but are really needed, and that they themselves can help forward the project in hand. The most important consequence of such self-realization is not that the work is successfully finished, but that the child gets a new outlook on life. He believes that this world is worth living in, and that he is

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himself not so insignificant and society not so callous as he formerly supposed. With this new faith, he takes a saner view of his social responsibility. Hitherto he would have resented any suggestion of his being responsible to anyone else; but now he is ready to do whatever is expected of him as a member of his little world. . . . In this manner he realizes his own individuality and becomes a useful member of society.'[1]

Appreciation enables people to withstand the inroads of fatigue. National leaders in many parts of the world who carry a heavy load of work and responsibility are enabled to do so partly on account of the recognition and appreciation they generally receive. Denied praise and appreciation many people tire out early. If this is true of adults, it is particularly so in the case of the young. 'Even such factors as adverse criticism, unfavourable progress reports, especially where they are considered unfair, comparing of one's own achievement or attitude with those of better endowed individuals, and a sense of neglect or misunderstanding by fellow-students or teachers—factors which less sensitive persons may all too lightly dismiss as trifling—may lead to emotional strain, and may result in the manifestation of symptoms usually associated with physical and mental fatigue.'[2]

Remarks in school progress reports fairly indicate to what extent teachers and heads of schools appreciate the attainments and aptitudes of their pupils. Recently I happened to see two such reports. Both of them were of children who did not do particularly well in their studies. In both reports the class teachers concerned had entered adverse remarks. But one principal wrote below the class teacher's remarks: 'A good attempt on the part of a newcomer'; and the other principal endorsed the remarks of the class teacher with her own query, 'Did you not do any work in this term?' The second principal's remark may be just, but it is discouraging.

The question that should be asked in this connexion is: Do we stress what yet remains to be done, or do we appreciate the progress—limited though it may be—that has already been made? The difference between an inspiring teacher and an uninspiring one is found in the answer given to this question.

Many a pupil comes to the school with unfavourable experiences. Some of them may not have a cheerful home atmosphere, some may be battling against poverty and its privations which make them appear small in their own estimate as well as in that of others; some may have

[1] A. V. Matthew, *The Child and his Upbringing* (M. Seshachalam & Co. Masulipatnam, 1943).

[2] A. V. Matthew, *Psychology and Principles of Education* (Literature Press, Tiruvalla, 1958).

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suffered neglect and insults from a teacher in a previous standard or school; some suffer from a sense of injustice because though they were excellent in certain performances their comparative backwardness in other fields deprived them of the recognition that should have been theirs. In all these cases tact, understanding and sympathy can help in the rehabilitation of the young person. Help him to realize that what counts is the promise that is in him rather than his limitations and shortcomings, and you will give him the right start in life.

ANJILVEL V. MATTHEW

From Music to Poetry

'Our aim should be to give pleasure and thus lay the foundation for an adequate appreciation, which may come later.'

—W. M. RYBURN

THE teaching of poetry is as fascinating a task as it is a difficult one. In the early classes the aim of the teacher is to help the children to see something of the music and magic of poetry; and the principle generally followed at this stage is: short poems and plenty of them.

Now, the shorter the poem the greater is the demand it makes on the intelligence and resourcefulness of the teacher. That being the case, a young teacher is often inclined to take more than one poem in a period just because the poems are short. This is unfair treatment to poetry. Each poem, short or long, is a distinct piece of art and it should be taught as such, the lesson being planned to last for a full period.

A treatise of poetry-teaching, however bright or learned, has very little practical advantage unless it is aptly illustrated with reference to a suitable poem or poems. With this fact well in mind we shall here explain the technique we mean to adopt with the help of Walter de la Mare's poem, 'Cherries':

'Cherries, ripe cherries,'
The old woman cried,
With a snowy white apron,
And basket beside.

And the little boys ran,
Eyes shining, cheeks red,

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To buy bags of cherries,
To eat with their bread.

The very idea of proceeding from ' music to poetry ' has arisen out of the fact that most of the poems studied in early classes are lyrical in character. A lyric is so called because it was originally meant to be sung to the accompaniment of a stringed musical instrument called the lyre. It should be a fascinating adventure therefore to revive this ancient practice in our classrooms.

Moreover, the appeal of poetry is directed primarily to the heart and not to the head. Its purpose is to ' make glad the heart of man '. Hence it is necessary to guard against the danger of driving poetry out of the heart in trying to drive it into the head. Music proves a powerful aid; for music not only stands higher in the scale of values but has a closer link with the emotional aspect of life than does poetry. It helps to make the children conscious of the close relationship between poetry and music and thus enables them to develop a keen taste not only for poetry but also for music.

Introduction

The teacher introduces the poem as a song and sings it to the accompaniment of the piano, if possible. The interest thus created will find the class eager to learn the poem as a preparation to singing it later.

Following this introduction, the teacher conducts three readings of the poem: (*i*) a first reading by the teacher, at the close of which the author is mentioned and his portrait shown; (*ii*) the full poem is placed before the class written in neat print-script on a roll-up blackboard. The teacher reads it once again and underlines the accented syllables thus:

' Cherries, ripe cherries '

This second reading by the teacher is followed by a chorus-reading by the class. During this reading the children tap the rhythm gently on their desks. There should be no noise if all the voices blend together to sound like one.

Word-music, Word-pictures

At this stage the attention of the class is drawn to the verbal music of the poem thus: (*i*) the melody of the recurring 'r' sound in the first line; (*ii*) the vowel music of the second line; (*iii*) the combination of the consonantal and vowel music in the third line; (*iv*) the alliterations, (*v*) the running effect of the fifth line (this line is also dramatized) and (*vi*) the melody of the rhyming words.

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Several pictures are shown at appropriate points such as: (*i*) ripe cherries, (*ii*) snow-covered fields and landscapes, (*iii*) an old woman wearing a 'snowy white' apron and having a basket of ripe cherries by her side, and (*iv*) a picture of boys with shining eyes and red cheeks.

In the present instance the teacher also gives a brief talk on bread and butter as contrasted with bread and cherries in driving home the meaning of the last two lines.

Community Singing

The teacher now sings the poem several times to enable the children to catch the tune.

The class is then ready to join the teacher and all sing together. There will be no disturbance of any sort if the class is convinced that music is not chaos but creation. All voices should blend together to produce the tone of a single voice.

The teacher need not be a musician. If he or she is musical enough and eager to teach poetry in the right spirit, a musician may be employed to compose the tunes.

As a final step in a poetry lesson it is the practice with teachers to ask the class to memorize the poem. The technique we have adopted here eliminates this step. For we are fairly certain that, taught in this manner, the children will not only remember the poem but also recite and sing it without any further effort on the part of the teacher.

Factual questioning too is considered unnecessary because all the hurdles about understanding the substance of the poem are cleared by the devices we have employed at the second stage of the lesson.

The lesson thus begins and ends with a song, the study of the poem being neatly sandwiched between the two singings.

Suggestions

In conclusion, we offer a few suggestions for the consideration of the poetry teacher.

1. Do not select a poem in which you are not sufficiently interested or a poem that is not well within the children's range of interest and appreciation.
2. Introduce dramatization wherever possible.
3. Let the pictures be attractive and show them at the right time and in the right order.
4. Do not be impatient if some of the students are not able to sing in tune. Treat tonal deafness with sympathy.

J. M. D'Souza

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Book Reviews

Educational Research, Vol. I, Nos. 1 and 2 (National Foundation for Educational Research in England and Wales, November 1958 and February 1959), $9\frac{1}{2} \times 7\frac{1}{4}''$, pp. 80, *5s. 6d.* each.

The aim of this new journal is clear-cut: it is to provide the teacher with an accessible and comprehensive survey of what is happening in the field of education research. It is not surprising if teachers and the makers of educational policy find it impossible to keep themselves continually abreast of the latest findings and studies that research-workers produce in such a steady and expanding stream. But they need to do so somehow, if they and their charges are to benefit. The National Foundation for Educational Research in England and Wales has realized how urgent the need is and must be congratulated on doing something about it; it has provided in this journal a useful channel through which the teacher may be fed with a selection and a summary of research-workers' conclusions.

It must be admitted that there are moments when these conclusions do not add up to very much. The research student, in any sphere, learns to expect nil returns and merely confirmatory findings; they are part of his world. But it can hardly excite the ordinary teacher to read an article ironically titled 'The Wish to Learn', which acknowledges reference to no fewer than fifty-two other articles and books, and makes such jejune and obvious deductions as: 'fear and anxiety have been shown to be, on the whole, inhibitive and disorganizing factors in learning', or 'an impersonal or worse still, a hostile attitude on the part of a teacher is not conducive to effort'. Teachers may know this already.

The contributors' job is thus at times a singularly thankless one. They do it well. The articles here are, as the Editor hopes, 'comprehensive and authoritative'. They are also—and this should be stressed—far from being provincial in scope, and will not only help the school-teacher in the United Kingdom but the profession everywhere. For instance, there are two distinguished contributions by Professor Vernon and Sir Cyril Burt on the topic of intelligence testing and the assessment of ability, which offer valuable ideas of universal application. The specifically English problem is tackled in a summary of work on the 11-plus examination, which concludes that although 10 per cent of its candidates are in a sense victims of its inadequacy, this exam is the best type in the United Kingdom, 'probably more valid than those employed for the selection of entrants to universities, the Civil Service or the various professions'. These first two numbers also publish articles on the size of classes, on comparisons between the basic attainments of children in England and Wales, California and Queensland, on the 'Teaching of Reading' and on the 'Teaching of Mathematics'. The last two are treated serially, different aspects of the subjects being considered separately. There are also brief abstracts of theses for doctorates. All the articles are equipped with lavish bibliographies.

The teacher in India, and particularly the student of comparative education, should find this journal well worth reading.

* * *

N. A. WATTS: *Adventures in Tropical Science* (Orient Longmans, 1958), Crown 8vo, Bk. I, pp. 90, Bk. II, pp. 89, Re 1.65 each; Bk. III, pp. 113, Rs 2; Bk. IV, pp. 150, Rs 2.15; Bk. V, pp. 197, Rs 2.90.

The teaching of Science has assumed great importance with the rapid growth of industries and scientific research, and as the textbook is an integral part of the educational system a demand for

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better textbooks in Science has arisen. The selection of such books has to be made with great discrimination, as apart from statements of fact and the style of presentation one of our main objectives is the development of a scientific attitude. There are a number of good books available, many of them foreign, which have become standard textbooks for senior classes; but for the intermediate and elementary stages the number is limited.

Many educationists believe that at the elementary stage no textbooks should be prescribed and that children should deduce scientific facts from their natural environment. There is much to be said for this, but most teachers find it convenient and practical to depend upon a textbook which covers the topics in the syllabus. In any system of education textbooks powerfully influence the scope, sequence and method of instruction. Therefore, if textbooks are to be used at the elementary stage, they must conform to the main objectives of Science teaching.

A child at the elementary school age is an inquisitive creature with a keen interest in everything around him. He likes to explore his environment. His Science textbook must therefore cater for and foster these tendencies. In the series under review the author has made a praiseworthy attempt to fulfil some of these objectives. Book I has been designed for pupils of eight years, and the subsequent ones up to Book V for pupils of progressive ages up to twelve years.

The series has been written to conform with the General Science syllabus in West Bengal. Many of the topics dealt with are such as are accepted as suitable for elementary school standards all over the country. Books I and II deal with objects which a child comes across in his daily life. Noticeable features are the assignments given at the end of each chapter, under the heading 'Things to make and do.'

Book III does not follow as orderly a sequence of topics as the first two books. Topics like 'Underground stems' and 'Kinds of roots', are detached from the rest relating to the study of plants. Nor are the assignments as practical as those in the previous books.

Book IV, as Book III, lacks attractive presentation and occasionally suffers from unscientific presentation of facts. Neither does it develop the topics on the accepted plan for General Science teaching; but this is excusable as the books have been written for a special syllabus.

Considering the age-group for which Book V is written, its topics are divided too early into different sciences such as 'Physics', 'Chemistry' and 'Biology'. Presentation is on the same lines as in the fourth book. There are a few instances of vague and loose statements: for instance, in the chapter entitled 'The Unseen Force that Pulls Everything Down', the sentences run: 'Have you ever wondered why things fall towards the earth instead of towards the sky? The reason is that the earth pulls everything on it and near it. The force with which the earth pulls things on or near its surface is called the force of gravity.'

The illustrations, particularly those in the earlier books, need improvement and in some places are incorrect. The significance of a cross-section of a leaf, in the third book, cannot be understood when the child has not developed any concept about a cell or its internal structure.

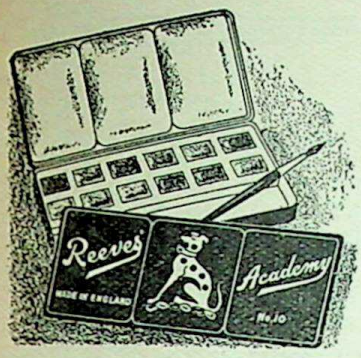
In spite of these minor defects the books will prove extremely useful to the teacher in giving assignments and for practical work.

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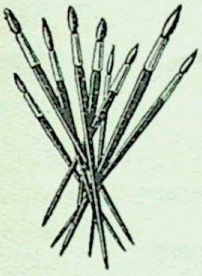


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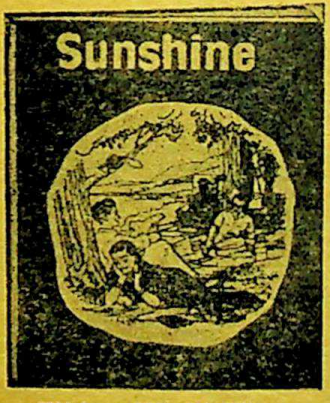
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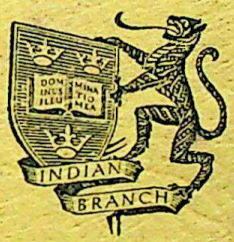
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TEACHING

A QUARTERLY TECHNICAL JOURNAL FOR TEACHERS

Editor : MARGARET BENJAMIN

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Editorial

IN the September issue of TEACHING we announced that our next special number in March 1960 would be on the Teaching of Geography. Since then several readers have requested that the March issue be devoted to Experiments in Schools, and this will be the subject of our next special issue.

The Secondary Education Commission Report of 1953 recommended: 'If a few progressive schools are established in every State, where experienced teachers would be free to work out an improved syllabus and methods of teaching and discipline, they might, in due course, help to leaven the whole educational system.'

As a result, steps were taken by some education authorities to implement this recommendation and experimental schools were established in various states. Some of these schools have done very good work in the last three years, and TEACHING proposes to discuss their experiments so that other schools may benefit.

It is suggested that contributors make their articles clear and concise, describing the aims of the experiments undertaken, the methods utilized in working them out, the difficulties experienced, and the results. Statistical evaluation of experiments will enhance the value of the discussions.

Articles about experiments carried out in schools which are not recognized as 'experimental' by their state governments will also be welcome.

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Group Activity Methods in English Teaching

In a recent B.B.C. broadcast on the teaching of English, Mr F. G. French said that children remember five per cent of what they hear and ninety per cent of what they do. Even allowing for an element of exaggeration, this statement is striking enough to cause teachers of English to pause and consider what happens in their classrooms. In the average English lesson how much does the pupil 'do'? How much is just listening?

The writer recently noted down the number of children who used English during a lesson in a high school class. Out of 48 pupils 18 said something in English. A few spoke more than once. Thirty pupils were silent. How were they occupied? They took down in their notebooks a few meanings of words. For the most part they appeared to be listening to the teacher and to the answers of the pupils who spoke. A great deal of the time was taken up by the teacher's explanations. These explanations give the pupils an opportunity of practising the skill of understanding spoken English, but in the light of Mr French's percentages one wonders whether the distribution of listening time and 'doing' time is very well balanced. Thirty pupils were completely silent. We are tempted to ask for how much of the time those 30 children were mentally present in the classroom.

Listening to a foreign language of which he has a very inadequate knowledge makes great demands upon the child's powers of concentration. A friend of the writer's was once asked how she had enjoyed a meeting in which there were several speeches in Tamil. Although she had a reasonably good grasp of the language, she said: 'The first part was quite interesting, and then I ran out of attention.' Many of our pupils, especially the weaker ones, are unable to pay sufficient attention for a whole period. From time to time their minds take a rest, the thread of the explanation is broken and confusion results. The great need is variety, yet with our present large classes and our present methods most of our pupils are doomed to listening for the greater part of the lesson.

Various Methods for Group Activity

There are various ways in which a change of activity can be introduced. Dr West, speaking in the same series of broadcasts as Mr French, made some useful suggestions about using writing as a way of inducing all pupils to participate. It is not the purpose of this article to consider such methods. Here the writer will describe group activities in English lessons which she has actually

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observed in a school where they have been used for more than three years. This is the Islamia High School at Pernambut, North Arcot District, in the state of Madras.

Each class is divided into groups of six to eight boys, the brighter and slower pupils being distributed evenly. The group activity procedures vary from teacher to teacher, from class to class, and from lesson to lesson.

Procedure for Précis-writing

The first procedure to be described is one used 'during' a précis lesson in a senior class. The teacher had chosen a passage from a non-detailed textbook. He indicated the passage on the board and revised briefly (chiefly for my benefit) the first stage. 'What is the first thing to do?' 'Read the passage.' 'And the next?' 'Make a list of the chief points.' This introduction took about two minutes. The boys were then sent to their groups to work out this stage. A boy in each group read the passage aloud in a low voice. No group distracted any other. They then began discussing the points, several boys in each group making some contribution. When they began writing down the points the teacher went from group to group, directing the attention of the group to mistakes, not giving the correct answer, but saying: 'There is a mistake there. Correct it.' Or, 'You have missed an important point. Look for it.' Each boy in the group wrote the points in his rough book, so that even if he made no positive contribution he was carried along with the group's activity.

When this stage was completed after about ten minutes, the teacher took two or three notebooks from different groups and went to the blackboard. He wrote the first point from one of the books and asked the class if it was correct. If it was wrong he asked for the correct form. If no one in the class could supply it, even when a hint was given, he corrected it himself, explaining the correction and illustrating it. All the points were treated in this way. There were very few corrections necessary as most mistakes were corrected while the teacher went round the classroom. Groups that had not found all the points had their attention drawn to what they had missed.

The boys were then told to write the précis from the outline on the board. In this stage, as in the former one, the sentences were decided upon by discussion, each boy writing down what the group agreed upon. The teacher went round to the groups as before, getting the boys to correct mistakes. The writer also went round. One group produced a précis without any mistakes at all. As soon as a group finished the précis, the teacher went to the

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group, took up one notebook and corrected it, discussing the corrections with the group. The boys then made a fair copy of the précis in their composition notebooks. The whole thing was finished in one period of forty-five minutes. By the usual methods this work would take at least two periods and the teacher would have a large pile of compositions to correct. When pupils work in groups the teacher still has the fair copies to look through, but as they have few mistakes they can be checked very quickly.

Before passing to the next procedure, one or two points may be noticed. The responsibility is borne by the boys from the beginning. It is they who must find the points, whereas when the teacher makes a blackboard outline it is he who is taking the initiative all the time. The pupils suggest points in response to his prodding. In the group method the pupils do not have the teacher to lean upon. It is true that the slower boys lean upon the brighter, and this is a problem that will be discussed later.

Procedure for Comprehension Work

The next procedure is used in comprehension work with an unseen passage. The writer chose the passage and set the questions. This was given to Form V, the second highest class. The teacher gave the passage to the class without a word of introduction or explanation. The groups immediately set to work, reading the passage, taking up each question in turn, discussing it, and finally deciding on the answer, which each of the boys wrote in his rough book. As in the other class the teacher went round to the groups, getting the boys to correct their own mistakes as far as possible, and helping them where they were unable to make a correction themselves. Three groups made the same mistake in answering a question. It was a mistake that arose from insufficient attention to detail in reading. The groups were directed to read the passage again and find their mistake. After about twenty minutes the teacher discussed the questions with the class as a whole, accepting the correct answers but selecting only the best to write on the board. The pupils were free to use these or their own corrected answers in making their fair copy. Again the work was completed within the period and the teacher was spared the correction of exercises full of mistakes.

Assignments in Language Work

The third procedure described here was observed in a class in the second year of English. The teacher brought to class a number of different assignments on slips of paper, e.g., questions to be answered, either on the text or general questions,

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statements to be changed into questions, correct plurals to be provided, and words with opposite meanings. Each group had a different exercise, and as each group completed its assignment and had it corrected it exchanged assignments with another group. At least three assignments were done by each group in the period.

The procedure within each group was interesting. The leader read out the question, a boy answered. If the group was satisfied with the answer, each boy repeated it in turn and then wrote it in his rough book. This is extremely important as it provided each boy with many more opportunities of speaking than he would ever get by the usual methods. The teacher again went round, helping and correcting. When a group had finished its exercise the teacher corrected the notebook of one boy, the others correcting their books from this corrected copy. At this stage the leaders were asked to check the corrections made by each boy in his book before the fair copy was made. Naturally the boys do not want the leader to find mistakes in their books, so they learn early to be careful about revising their work. In this connexion it is useful to remember the statement made by Dr P. Gurrey in his book *Teaching English as a Foreign Language*. He says research has shown that many mistakes in composition are not matters of ignorance but of carelessness. When pupils are trained early to become mistake-conscious they make far fewer careless mistakes in their examinations. That this can be done successfully in the early years of teaching English was clearly shown by the teacher of this class.

The same teacher also used group methods to give pupils more practice in reading aloud. Every high school teacher knows that many a boy in the top form cannot read aloud without stumbling. The only cure for this is practice. When reading aloud is done in class only a very few pupils get any practice. When it is done in groups the number of pupils who can practise is multiplied by the number of groups. It was interesting to notice that the boys did not appear to be distracted by the other groups. The teacher moved about, going to any group where he noticed a pupil mispronouncing words.

Procedure in Textual Work

The last procedure to be described is the most extreme use of the group method, one which throws all the responsibility on the pupil. The teacher sets a passage to be studied from the class reader and asks the groups to go through it, making a list of all the new words and noting the new structures. The teacher may or may not have read the lesson aloud to the class before. When

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the boys have prepared the list of new words (and it is worth noting that these are what the boys consider new words, not what the teacher considers new) the teacher lists them on the board, divides them out between the groups and tells them to use them in sentences. No explanation of the words is given by the teacher at this stage. When this has been done he calls upon the first group to give its first sentence and writes it on the board. If the sentence is a mere substitution for the one in the reader, it is rejected. For example, if the sentence in the reader is, 'Kannan is an active boy', and the group's sentence is, 'Rani is an active girl', it is not accepted. It was interesting to notice on that occasion that half the words were used in sentences which showed that the boys had been able to discover the meaning by studying the text carefully.

When this stage is over, the groups are made to ask questions and give answers, each group being given a different paragraph to work on. These questions are taken up, with their answers, and discussed by the teacher with the whole class. In the course of the discussion pupils' difficulties are discovered and dealt with. The teacher wastes no time explaining or teaching what the boys already understand. The pupils themselves show what they need to be taught. This is the most controversial of all the procedures that have been described so far. Some teachers would feel that the teacher should take a more active part in presenting the material, but the proof of the pudding is in the eating and the teacher at the Islamia School claims to have obtained good results

Some Criticisms of Group Activity Methods

The most common criticism that is levelled against group methods is that the slower pupils do nothing but copy the work of the brighter ones. To answer that it is necessary to consider the problem of the slow pupil. Why does he make mistakes in English? Is it because he has incorrect ideas of English or because he does not know the correct form? These two states of mind are by no means identical. The slow pupil's ideas of English are usually hazy. He has no confidence about the correct form. He does not believe that 'Where he went' is the correct form. Rather he is not sure that 'Where did he go?' is correct. His basic need is for plenty of practice in the use of the correct form. When he is left to his own devices—and no teacher with a class of forty-five boys or more can give much attention to the slow pupil—he writes sentences full of mistakes. Every time he does this his confusion becomes worse. He is not practising correct English, but mistakes. One of the reasons why slower pupils fail

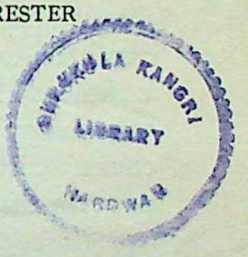
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to improve is that too much of their time is spent in practising wrong English. When these boys work in a group their elementary mistakes are immediately corrected by their companions. Many of the sentences they write in their rough books are correct, so they practise correct English. Their opportunities of practising incorrect English are removed, and their English gradually improves.

Group work provides many more opportunities for more pupils to be active. Where responsibility for their work is placed upon them, boys are more disciplined. Group work teaches pupils to speak quietly. This alone is good for discipline. The teachers have far less correction work to do outside class hours and are therefore able to set more exercises, thus enabling the pupils to get more practice. The pupils' burden of homework is lightened. This is very important for rural boys, some of whom have to walk six miles each day and consequently have little time or energy for much out-of-school study. Group work cannot replace individual work entirely, but it can ensure a great deal more activity on the part of the pupils.

JEAN FORRESTER



Wrong Articulation

THE VARIOUS SPEECH DEFECTS that come to the notice of the teacher or the doctor can be broadly classified into three groups:

1. *Psychogenic or speech disorders*, such as stammering or stuttering, occur in one's speech intermittently, depending on the audience, the defective's relations with his environment and the degree of apprehension with which he approaches a given 'speaking situation'. They are characterized by spasms of the speech and other muscles, and this in turn interferes with the fluency of the defective's speech.

2. *Organic disorders* are directly due to the malformation or underdevelopment of certain speech organs. The hare-lip, the cleft-palate, the underhung and the overshot jaw, paralysis of the pharynx or the larynx, the tongue-tie, and several defects of this group make it impossible for the person to vocalize or articulate correctly.

3. *Functional disorders*. Under this heading would come those defects which are not due to any malformation of the speech

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muscles. These defects are constant, irrespective of the speaking situation or environment. It is this last group with which this article mainly deals.

Development of Functional Disorders

The defects most characteristic of this group are lalling and lisping. No child's pronunciation is perfect during the first three years of his life. While learning to speak through imitation, the child does commit errors of articulation. But through the trial-and-error method he learns the correct sounds and loses his baby-talk. But if a child is born with severe nervous defects or semi-deafness, and shows mental and physical retardation in infancy, he remains practically dumb for some years and starts his baby-talk only at the age of seven or eight. Even he adopts the trial-and-error method, but for lack of a corrective environment he drops the trial and continues the error. This defect is not natural or transitional: it is pathological. If it is allowed to go uncorrected it can become a serious handicap during adolescence and maturity. The adult's lisping is known as *dysarthria*, or wrong articulation. In many cases the speech becomes completely confused and unintelligible. With an increasing realization of his unfitness for social intercourse, the defective develops an inferiority complex and becomes a 'lone wolf'. These latter characteristics, arising from what is mainly a speech defect, tend to form the basis of psychic complications.

Organo-Functional Disorders

A few organic disorders such as the cleft-palate and the hare-lip are nowadays remedied by surgery, and the defective palate and lips can be brought to near-normalcy. But operation alone is no cure for the cleft-palate speech: the patient continues his original mispronunciation with the added characteristics of nasal escape of breath and resonance. Thus, after surgery, cleft-palate and hare-lip speech become functional rather than organic.

This article is based on the information gathered from the study of thirty-five cases, out of which eighteen underwent corrective training. The majority in the dysarthria group were boys, and the majority in the cleft-palate group were girls.[1] Though the cleft-palate group had to be given additional training to eliminate nasal escape of resonance and breath, for purposes of speech-training they were treated in the same manner as dysarthria patients.

[1] The reason for a larger percentage of girls in the cleft-palate group and a larger percentage of boys in the functional group has yet to be explained satisfactorily by medical authorities.

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Main Characteristics of Dysarthria

The main characteristics of wrong articulation or dysarthria may be grouped as follows:

1. *Respiration.* The outward drive of breath for the production of all syllables is insufficient, with the result that the medial consonants are often slurred over and final ones dropped. Fluency also suffers in the extreme, and reading and speaking are marred by frequent jerks and pauses.

2. *Inertia of the tongue.* If a muscle is not used for a long time it develops a type of inertia, medically known as *paresis.* The paresis of the root of the tongue causes the absence of the gutturals, that of the middle tongue is responsible for the want of the palatals, and the inertia of the lower tongue interferes with the correct articulation of the linguals, the dentals and certain semi-vowels.

3. *Laryngeal dysfunction.* We know that while uttering the vocal consonants (*gay, jay, dee, thee, lee,* etc.) the larynx moves slightly downwards, producing a vibration below the thyroid bone. Many defectives wrongly articulate 'gum' as 'come', or 'bull' as 'pull', not because they do not place the lips or the tongue correctly, but because during articulation of the vocals the larynx does not work downwards.

4. *Diaphragmatic dysfunction.* The aspirate 'h' is like the vowel in the sense that it is not stopped during its egress through the mouth by any speech organ. But whereas the vowel is produced by the aerodynamic pressure of the lungs, the 'h' has to be forced or jerked out by the sudden movement of the diaphragm. A good many of the cases under discussion did not have the aspirate: they said 'and' for 'hand' and 'is' for 'his'.

5. *Sibilant difficulty.* Among all the consonants of the alphabet, the sibilants (*s, sh, z, zh*) demand the maximum breath-force for articulation. Due to inadequate exhalation velocity most defectives of the group are not able to hiss or buzz the sibilants.

6. *Lack of glossal vibration.* Here we find the production of the trilled 'r' impossible because the tongue has never learnt to vibrate. The sound is either substituted by a dental or semi-vowel, or is replaced with the palatal 'r' (which is similar to the Hindusthani 'rh' in 'gorha').

7. *Over-simplification.* The quick movement of the tongue needed in articulating compound consonants (such as *br, kl, gr*) becomes impossible for some defectives and therefore they drop

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the second member of the compound, e.g., 'tick' for 'trick', 'neuttal' for 'neutral', 'cam' for 'clam'.

8. *Hurried articulation.* Very often the defective's mental capacity is in advance of his muscular ability. He thinks faster than he can articulate. As a result his articulation, with all its other errors, is so hurried that his speech is unintelligible.

9. *Spoonerism.* This term stands for the error of interchanging the first consonants of two different words in the same sentence. An occasional, but interesting, feature of dysarthria defectives is that instead of interchanging the consonants of two different words, they interchange them in the same word: thus 'chuck' becomes 'kutch', or 'cut' becomes 'tuck'. This is ostensibly caused by the fact that the defective in his preoccupation with getting the second syllable correct, anticipates it.

10. *Substitution.* Substitution of one consonant for another is a very common feature of the defective's speech. If these substitutions are consistent, i.e. the same consonant is replaced with the same wrong consonant throughout, the listener in course of time learns to understand him. But sometimes these substitutions are inconsistent and unintelligible.

11. *Incorrect spelling.* Some defectives are not able to write correctly, because they tend to write as they speak. Their spelling mistakes are an excellent reflection of their articulation errors.

12. *Low intelligence quotient.* It is not fair to subject speech defectives to the standard methods of assessing intelligence which involve oral answers. Still, even if suitable methods are evolved to assess the defective's intelligence, one finds that while his hearing might be normal his comprehension of what is heard is defective, and so is his memory for sounds.

Phonetic Basis of Re-education

The actual re-education of speech has to start from scratch, i.e. from the alphabet. Among the four phonetic systems that have come within the study of the writer (English, Urdu, Punjabi and Nagari), the Nagari (used in classical Sanskrit and adapted by various modern Indian languages) is found to be the most suitable for phonetic training. The two chief merits of this system are: (i) the vowels are separated from the consonants, and (ii) the consonants are arranged in a very scientific manner, both from the anatomical and from the phonetic points of view. The consonantal list is by no means complete since it does not provide for a number of local variations such as 'f' and 'z'. In speech

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therapy, therefore, the list has to be amended to suit the needs of individual cases.

The Nagari consonantal alphabet can be represented as follows :

Series	Unaspirated Non-vocals	Aspirated Non-vocals	Unaspirated Vocals	Aspirated Vocals	Nasals and Semi-nasals
Gutturals	ka	kha	ga	gha	n(g)a (as in 'hang')
Palatals	cha	ch-ha	ja	jha	n(j)a (as in punch)
Linguals	ta	t-ha	da	d-ha	na (as in and)
Dentals	tha (as in thrice)	th-ha (as in thick)	tha (as in they)	dha (as in Radha)	na
Labials	pa	pha	ba	bha	ma
Semi-Vowels	ya, ra, la, va, and the palatal form of la (as in cold)				
Sibilants	sha sh-ha (palatal form of sha) sa				
Aspirate	ha				

It is noteworthy that :

1. The first four series proceed in an orderly manner down the tongue from the root to the tip, culminating in the purely labial series.

2. The physiology for the production of all five members of each of the first five series is the same.

3. The first four of each of the first five series are *plosives* (produced by the split-second explosion of the breath through the lingual or labial obstruction), while the rest of the consonants are continuants (capable of prolongation before being suffixed by a vowel).

4. The aspirate 'ha' is not only usable independently but also with any other vocal or non-vocal consonant.

5. The nasals 'na' and 'ma' are also used as semi-nasals because they can be used in the initial place of a word in addition to the medial and final places, while the 'n(g)a' and the 'n(j)a' are pure nasals, used only medially to give a nasal sound to the consonant following. The lingual 'na' (as in and) is used both medially and finally, but not initially. In the production of all these nasals and semi-nasals the velum (end of the soft palate) must hang midway between the nasal and oral cavities, thus permitting the escape of half the sound through the nose. The repaired cleft palate will either close the nasopharyngeal valve altogether or leave it completely open.

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Each consonant may have three places in a word: the beginning, the middle, and the end. This makes it necessary for the speech correctionist to go by a list of key words which are representative of all the basic and compound consonants occurring in all the three places of a given word. This list is meant for systematic teaching and periodic testing of consonantal sounds. [1]

Repair of Organic Defects

The initial step in the re-education of the defective is the correction of structural factors which might be responsible for misarticulation. Crooked and spaced teeth can be straightened by the orthodontist; so also the realignment of the jaws and the cutting of the tongue-tie must be done by a specialist. However, if dental, jaw or glossal defects are not causative of the speech defect but only contributory factors, it does not become imperative to secure structural repair. Re-education of the speech organs to produce particular sounds by encouraging compensatory movements is one way in which the speech correctionist accepts the challenge of circumstances and enables the child to articulate correctly despite organic irregularities.

Systemic Correction

Dysarthria is not merely a speech defect: it is often accompanied by a number of neurological complications, the commonest of which are deep-seated psycho-somatic tensions. It therefore becomes essential to teach pupils total and applied relaxation side by side with the correct dynamics of articulation. Relaxation must be aimed at relieving the defective of his habit of straining the abdominal, thoracic and neck muscles while producing a 'difficult' sound. Secondly, an easy, rhythmic breathing capacity being the foundation of all good speech, it becomes necessary to train the defective to breathe deeper and to increase the velocity of exhalation. Thirdly, the toning up of the speech and peripheral muscles, including orbicular ones, becomes essential in order to reactivate them for fullest use in articulation. To achieve this, use physical exercises such as pouting, grinning, tongue-stretching, and swallowing.

Correction of Environment

Environmental factors which might have contributed to defective speech, including the behaviour patterns of parents and relatives, of classmates and playmates, prove even more difficult to correct than organic ones. Tactful counselling of

[1] The list being used by the author at the moment consists of 99 basic and com pound consonants, and totals 297 words.

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parents by the teacher or the correctionist, and the prevention of teasing by the pupil's companions, has got to be carried out, though the task is admittedly not easy. Congenial speech-situations, where the defective can speak in a relaxed, carefree manner, are as important as actual speech correction for the assimilation of what he has learnt.

Training of the Ear

Training of the ear is the most important part of speech correction. The lisper (unlike the stammerer) blunders because he is not aware of his errors. He has to be made conscious of his mistakes, and this is best done nowadays by tape-recording his speech and that of the correctionist, word by word, phrase by phrase, alternately. The playback gives the pupil an opportunity to listen to his own speech objectively (which is hardly possible in normal speech). The machine also helps to create vivid auditory impressions which enable the pupil to recognize readily both the error and the correct sound and to discriminate between the two whenever he hears them. If he is old enough, he should be asked to list his own misarticulations on paper; this list provides the therapist with useful data.

First Stage : Teaching of a New Sound

Before learning to produce the correct sound in rapid, connected speech the defective must learn the sound itself as an isolated element, separate and apart from the complex pattern of words. This process of learning isolated speech sounds is best done with the aid of the Nagari phonetic system. If the pupil is able to produce one of the first four consonants of a given series, he does not have to learn the phonetic placements of the relevant speech organs. Thus if he is able to say 'ka', to produce 'ga' his ear can be improved by drawing his attention to the necessity of moving the thyroid box downwards. As soon as he has learnt the new sound it should at once be incorporated into a series of words in all the three places. Perseverance is the only way to familiarize the ear of the defective to the new sound and to make its unconscious use possible at a later stage.

As a rule priority should be given to the consonants belonging to the continuant class. This is because the pupil can be made to sound them before they are actually conjugated with a vowel. The prolonged hissing of the 's' in 's-s-s-sack' enables the pupil to test his accuracy with the consonant, while the plosive action of 't' in 'tack' is instantaneous and gives no time for private testing.

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The continuous hearing of the correct sound from the teacher or the tape-recorder is sometimes called the 'stimulus method', and is voted to be the best because it provides both visual and auditory stimuli. The child proceeds to learn the unknown consonant by recognizing its affinity to the known consonant of the same series. And the visual stimulus comes from observing the lip and tongue movements of the teacher.

Sometimes, when the stimulus method does not succeed, it is advisable to fall back upon certain artificial aids and exaggerated dynamics of articulation, though the latter have fallen out of favour with modern speech therapists. Thus when the defective is not able to keep his teeth open a fraction of an inch while producing the 'sa' sound, he must in the initial stages hold a match between his teeth while hissing. Again, if he is not able to produce the 'la' sound as different from 'na' (both have the same tongue-placements), he should be told to jut his tongue fully out, hold it between his teeth, and then produce the 'l-l-l' sound. No doubt it is a bad habit, even a wrong habit. But within a few days of his learning the differential phonetics of the 'na' and the 'la' sounds he can withdraw his tongue to its normal position.

While teaching the basic consonants, the teacher or the correctionist must make the best use of such aids as mirrors, diagrams, oral explanations of the mechanics of articulation, and the kinesthesia of sounds. Kinesthesia is literally 'seeing through feeling', and is best illustrated by the pupil placing his finger on the teacher's throat, just below the thyroid bone, while the teacher articulates. Let him notice the vibrations produced at this spot when the teacher says 'gag', the vibrations being absent when he says 'cake'. In most cases the development of the kinesthetic sense is but a corollary to learning by ear. In time it actually enables the pupil to learn the 'feel' of the back consonants, i.e. the gutturals and the palatals, which are produced in areas not visible.

Second Stage : Formation of Compound Consonants

Once the pupil has mastered the mechanics of articulating basic consonants, he should be trained to produce the compound consonants. For compounds such as 'pray' he should place his lips to pronounce 'p' but try to say only 'ray'. This concentration of the mind and the ear on the second member of the compound brings about the automatic enunciation of the first member. When this compound occurs medially, the pupil should be trained to split it into its components. For instance, the word 'chakra' should be pronounced 'chak-ra' and not 'cha-kra'.

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Third Stage : Reinforcing the New Consonants

The first two stages of learning new consonants provide the pupil with a list of 'test words'. However, in order to concentrate his attention on the sound of a word without distracting him with the meaning of it, it is a practice with some therapists to form 'nonsense words'. Here also the Nagari phonetic system is useful. It is advisable to make a chart of the whole series of the consonants in all their vowel mutations (*ka, kee, koo,* etc.). In the beginning the child should read any two of these consonant-vowel combinations in one breath to form a single word. Then take any three, any four, etc., progressively. Bearing in mind that he must pronounce consciously, he should be given time to proceed from the monosyllabic to the diplosyllabic and multisyllabic stages progressively. He might show a tendency to break his breath-stream after each syllable, and that is why it is not advisable to proceed to multisyllabic words before he is able to pronounce the diplosyllabic word fluently. An advance to the articulating of sensible words (words that have a meaning for the child and are usable in his normal speech or reading) should be made only when absolute accuracy and fluency in the nonsense words are achieved.

The utility of tongue-twisters is still controversial, but in my experience specially formed sentences with alliterative words have proved very useful in the penultimate stage of speech-training of dysarthria patients. The sentences devised should suit the knowledge and the age of the pupil. The ultimate stage should consist of a full list of the individual's 'difficult consonants' used in a single or as few sentences as possible.

Last Stage: Rehabilitation

Story-telling, easy conversations and recitations form the actual bridge between speech-training and daily life. Even at this stage it is futile and even destructive to expect cent per cent accuracy in articulation. Accuracy in unconscious articulation is progressive, and is very much dependent on the intelligence quotient and mental alertness of each individual. It is also dependent on the congeniality of his environment. Declamation in one's own drawing-room is easier than in a classroom. An occasional lapse into old habits does not indicate that the pupil is still defective; rather, it shows that he needs more time for a complete assimilation of what he has newly acquired.

General Considerations

The age-old controversy whether defectives should be taught individually or in a group can readily be answered by saying that

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both processes are essential, for while certain misarticulations might be individual defects, speech itself is a social activity. Moreover, the defective profits as much from the correction of others' defects as of his own. Sometimes he learns more readily from another defective's efforts than from the teacher's direct correction.

The actual period of training required in each case depends on (i) the number of errors to be corrected, (ii) the response of the individual to the training course, (iii) his intelligence, (iv) the time allowed for assimilation after learning each new sound, and (v) the sympathy extended to the pupil by his correctionist.

Psychologically the last factor is the most important. The corrections, though necessary, should be of a constructive nature and helpful, and should never sound like nagging. The ideal is to approach speech problems with the reverence due to the faculty of speech, and to respect the susceptibilities of the pupils while correcting them with patience, infinite patience.

CHARLES COELHO

An Experiment in Social Studies

THE SECONDARY EDUCATION COMMISSION and the subsequent International Study Team have rightly stressed the importance of experiments in education. Experimentation is the very essence of dynamic methods in teaching. Dewey was right in emphasizing that a school does not exist for the purpose of putting into practice a preconceived educational theory. At the same time, experimentation in school should be distinguished from educational research, in which deliberate attention is given to the verifying of hypotheses. The teacher as an experimenter may be somewhat casual in his approach. Educational reforms have in many cases had their origin in the convincing advocacy of innovation by workers who could lend authoritative evidence to their views. Many old myths will be exploded and fresh values established in the light of experiments and experiences gained.

Concept of Social Studies

With this background, we at the Gurukul High School at Ghatkoper, Bombay, undertook this experiment in social studies.

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Social studies lay emphasis on human relationships. The concept of social studies includes not only correlation but integration. This means that whatever is taught in schools must have a social significance for the pupils. Whatever need is being neglected by other agencies of society must be fulfilled by the school. It is supposed to build character, provide recreation, strengthen the mind and the body, and teach international understanding. The school should directly serve the local community and pave the way to a new social order. The teacher's role takes on a new meaning; he becomes an interpreter of the local community and its reformer.

Social studies deal with human relationships, and for a long time these relationships have been taught under such subjects as history, geography and civics. But with our rapidly changing society the concept of social studies has been revised. Integrated education has become the key word today. After two world wars, thinkers all over the world have felt very powerfully and even poignantly the pressing need for co-operation, synthesis and integration. Education can no longer be an isolated department of life. There has been a change in values; therefore to inculcate knowledge only by means of isolated subjects is not sufficient.

The Place of Social Studies in the School Curriculum

Social studies do not comprise history plus geography plus civics. In fact it is difficult to understand why these subjects are taught together as 'social studies' in the higher standards of the secondary schools of Bombay state. They are separate subjects, treated separately in separate textbooks. A social studies course in school is a good preliminary to the teaching of history and geography as separate and special subjects. Specialization in these subjects should come at an advanced stage and the serious study of history and geography must be done outside the years of compulsory schooling. Social studies offer abundant opportunities for projects and for active learning. Topics such as 'Our Homes', 'Our Food', 'Our Clothes' and 'Our Festivals' can lend themselves easily to project work.

Here is an account of an actual experiment undertaken between the years 1957 and 1959. The first year was more or less exploratory. We started the experiment in July 1957 in Standards VA, VIA and VIIA of the high school, the other divisions of these standards remaining as control groups. Our aim was to make the pupils participate actively in the development of knowledge. We wanted to determine:

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(i) which reference books were likely to be used by the teachers;
(ii) which children's books were suitable for social study;
(iii) how the children reacted to the experiments;
(iv) the time taken to cover each topic;
(v) the expense likely to be incurred in building up a social studies laboratory;
(vi) the techniques of integrating the various aspects of social studies;
(vii) the evaluation of such courses; and
(viii) the comparison between the two groups—experimental and control.

At the beginning of every month the teachers in charge of social studies met the principal to discuss their experiences of the previous month, and to prepare their plans for the following month. The pupils collected pictures and cuttings bearing on the topics, and they prepared a news book and picture books. They were also given interesting books to read on the subject. Instruction was imparted through assignments, projects, debates, one-act plays, and readings from source books.

In the light of the experience gained the June 1958 syllabuses for Standards V A and VI A were modified. The syllabus for Standard VII A was modified in June 1959. The new syllabuses were extended to the 'B' divisions of Standards V, VI and VII also. These were finally evolved as given below and are being followed during the current year (1959-60):

Standard V A

1. The basic needs of mankind: food, shelter, and clothing.
2. Our neighbours: their lives, habits, dress, food, and occupations.
3. Our country and its people: geographical factors affecting habits, food, dress, and the occupations of the people.
4. Importance of rivers: in the production of food, irrigation, and hydraulic power.
5. River valley civilization: its significance.
6. How people lived in ancient India:
   (i) the advent of the Aryans and their social life; (ii) the times of Buddha and Mahavir; (iii) the Maurya and Gupta periods; (iv) Vishal Bharat; (v) early travellers; (vi) and their impressions of our country.

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As a group project a class magazine on 'Food from the Field to the Kitchen' was prepared.

Standard VI A

1. (i) Rainfall, evaporation, and condensation.
   (ii) Life in the monsoon lands, with reference to rivers, mountains, towns, means of transport, and communication in the India of today.
2. The main religions of India today; their origin, forms of worship; places of worship; rivalries in the past.
3. Social and cultural aspects of (i) the Buddhist period; (ii) the Muslim period; (iii) the Maratha period.
4. Factors leading to the disintegration of the cultures mentioned above.
5. A general discussion on the shape and size of the earth, rotation, and the peoples of the world.

Projects were prepared on 'Dwellings, Ancient and Modern' and on 'The Lives of the Prophets'.

Standard VII A

1. Revolutions of the earth, seasons, climate zones, latitude and longitude, local and standard times, major factors affecting climate.
2. Festivals: seasonal, national and religious.
3. Indian industries and exports in the fifteenth and sixteenth centuries.
4. Old trade-routes; maritime discoveries.
5. Coming of the Europeans to India.
6. Establishment of British rule in India.
7. Renaissance in India, a bid for intellectual and political freedom.
8. The legacy of British rule; civic institutions; how we are governed today.
9. Five-Year Plans; India's wealth—mineral, agricultural and industrial.
10. The world; one family; UNO—ideals and achievements.

The pupils of Standard VII prepared projects on 'The Renaissance in India', 'Postage Stamps and their History after 1947', and on 'Our Festivals'. Teachers prepared and maintained their own notebooks. Charts were also prepared and full use was made of visits to interesting places.

New-Type tests were administered to pupils to evaluate their progress.

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It was found that pupils enjoyed this approach to social studies and proved themselves superior to pupils of the control groups in the other divisions of these standards. The work naturally involves more labour on the part of the teachers, and those in charge of the experiment should have more 'free' periods to plan out their work. The Government should give some financial aid to schools that are carrying out such experiments as they incur considerably greater expense.

M. P. VAIDYA

Evaluation of Examinations in Science

IN ORDER TO DETERMINE the effectiveness of instruction, measures of achievement have long been employed as an integral part of educational programmes. The present system of examinations, though widely used as a means of evaluation in education, has earned various epithets from reformists. It has been called an enemy of the pupils, an obstacle to education, a begetter of rivalry and strife, an emetic, and a glorification of memory at the expense of the rational and creative powers. Therefore, in order in identify the pupils' strong and weak points, and to report their progress correctly, we must amend the existing system of examinations. We need a well-planned programme of evaluation which will ultimately provide reliable evidence of the pupils' general growth. As applied to the teaching of science, an attempt has been made to prepare an adequate programme of evaluation.

Aims of Teaching Science

The aims of teaching science as advocated by various educators can be summarized as follows:

1. Science instruction must give the student systematic training in careful observation, in experiment, and in estimating the relative value of results.
2. It must provide a knowledge of the material world and of the forces of nature.
3. It must teach wise use of leisure and enjoyment of nature's beauty.
4. It must stress the significance of scientific pursuits for social welfare.

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The present era, which has seen the birth and development of the standardized test and the concomitant testing movement, has also witnessed the growth of a new philosophy of evaluation. This no longer consists only of checking the results of instruction in science, but includes the continuous appraisal of the student's progress towards the achievement of pre-established aims. Evaluation, as an important function in the educative process, should not limit its scope to mere theoretical mastery of facts and principles but should go ahead to assess the other aspects of growth, such as reflective thinking, scientific attitude, creativeness and social sensitivity.

The teacher must determine which techniques to use. The choice of techniques should be based on judgements formed through comparative class observation, personal interviews, records, and prolonged case studies. Standardized tests along with teacher-made tests can be employed to great advantage for the purpose of evaluation. A comprehensive, flexible and balanced evaluation programme would find room for achievement tests, diagnostic tests, and prognostic tests, frequently supplemented by the essay type and short-answer type tests.

Achievement Tests

The measurement of achievement is not limited to testing proficiency in certain fundamental processes and factual information. It also includes the testing of understanding of concepts, techniques and principles. Thus achievement tests seek to determine the level of skill or range of information in things academic or vocational. These tests are designed to measure information gained either in studying a particular course or as experienced elsewhere. Using knowledge as a means to an end, they compare and discriminate between relative abilities, and they measure the retention and understanding of learning. Some of the techniques used for testing mastery in the study of science are: completion tests, true-or-false tests, matching tests, multiple-choice tests, and one-word-answer tests. These tests discriminate between the pupils below and those above the level of desirable achievement.

Diagnostic Tests

Recent attempts at discovering difficulties in learning science and detecting needs for remedial instruction strongly suggest a vital use of diagnostic tests with personal interviews. These tests are designed to yield separate scores for independent and important skills. When the achievement of a pupil falls below a desirable standard in any one of the major fields of science, the specific

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causes of difficulties are isolated and analysed. This affords a basis for setting up remedial measures.

Prognostic Tests

Prognostic tests analyse the pupil's ability to master facts and predict possible future achievements on the basis of this analysis. Apart from measuring mechanical ability and functional information, they inquire into the student's interests, aptitudes, work habits and study skills. An aptitude test is prognostic from this point of view and it is an aid to effective pupil guidance.

When to Employ Evaluation Techniques

Exact thinking calls for mastery of facts and principles. The evaluation of mastery in science study should, therefore, be extended over the whole year. Tests administered at frequent intervals and periodic interviews with pupils will enable the teacher to judge the completeness of learning and to prescribe remedial measures in cases of deficient learning.

Instruction in modern schools is gradually shifting from a content-centred curriculum to vitalized, life-centred activities. Mastery of content is no longer an end in itself but a means of solving problems. Systematic records of the pupil's progress in theoretical studies, practical work, and the various co-curricular activities are becoming increasingly useful in giving a true picture of his achievements. Stress should be laid on maintaining such records throughout the year.

Procedure of Evaluation

As stated in the Taradevi Report[1] on the teaching of science, the performance of the pupil at school as recorded in the progress report and at the external examination should receive due recognition in the final assessment.

The final assessment should be based on the following:

1. Practical work	40 per cent marks
2. Theoretical work	60 per cent marks

PRACTICAL WORK

The assessment of practical work should be based on the following:

(i) school records	50 per cent, i.e. 20 marks
(ii) external tests	50 per cent, i.e. 20 marks

[1] The report of the first all-India seminar on 'The Teaching of Science in Secondary Schools' held at Taradevi, Simla in June 1955.

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School Records

The work done by the pupil at school during the whole year can be classified under three sections:

(i) day-to-day experiments	5 marks
(ii) projects and activities undertaken by the pupil as a member of the science club	5 marks
(iii) periodic tests (at least two in a session)	10 marks

The pupil should maintain an up-to-date record of the day-to-day experiments performed by him during the course of the year. The teacher should also maintain a record of the experiments performed by the pupil. In assessing an experiment the following points should be taken into consideration:

(i) Number of experiments performed successfully out of the prescribed course	1 mark
(ii) Observance of laboratory discipline	2 marks
(iii) Quality of work done	2 marks
	5 marks

A chronological record of projects undertaken should be maintained, together with class summaries, in the science notebook by the pupil. The teacher should also keep such records in his own diary or log-book. Individual and group activities as part of the science club programme should be indexed in the class note-book datewise. The projects undertaken by the pupils and the material assessed by them should be catalogued and exhibited in the science museum. Assessment should be as follows:

(i) Pupil-participation in debates and discussion	1 mark
(ii) Preparation of pictures, charts, diagrams, models and home-made apparatus	1 mark
(iii) Collection of unusual specimens for the science museum	1 mark
(iv) Meteorological work; upkeep of the science library, museum, school garden, science club room	1 mark
(v) General conduct, in the form of social service during the club's programme	1 mark
	5 marks

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The marks of the periodic tests should be entered by the teacher in the following record books: the pupil's progress report, which should be duly signed by the parent; and the school marks register, which should be preserved as a permanent record in the school.

In each practical examination the basis for assessment is:

(i) The method of performing the experiment	1 mark
(ii) Records of the experiment	2 marks
(iii) Results of the experiment	1 mark
(iv) Oral tests	1 mark
	5 marks

There should be two such quarterly tests in a session. Five marks should be allotted to each quarterly examination. In case the school holds weekly or monthly examinations, distribution of marks may be done with the above considerations in view.

External Tests

In the external examination the same technique of evaluation should be adopted. For the yearly assessment of practical work the following considerations should be borne in mind:

(i) the methods of performing the experiment	4 marks
(ii) records of the experiment	8 marks
(iii) results of the experiment	4 marks
(iv) oral tests during the experiment	4 marks
	20 marks

Theoretical Work

The external examination, now in vogue, puts a premium on blind following of a set syllabus and on rote memory. In order that the examination may be a true test of the pupil's ability to use knowledge, and not of the pupil's stock of knowledge, there is a demand for greater effort and understanding on the part of the paper-setter. The questions set at the examination should involve thinking and reasoning on the part of the pupil and should reduce memory work to a minimum. The report of the Bhopal Seminar on 'The General Examination System' (1956) recommended two sections in each paper: the first, of about half an hour's duration, containing only objective tests: and the second, of about two hours' duration, containing questions of the essay type and short-answer type. Such questions will to a large extent eliminate the subjective element in the assessment of the pupil's progress.

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The Seminar has further suggested assessment of theoretical work as follows :

(i) a school record of the year's work 20 per cent (12 marks)
(ii) performance at the external examination 80 per cent (48 marks)

The evaluation of the year's work should include :

(i) class-work	3 marks
(ii) daily assignments	3 marks
(iii) periodic tests	6 marks
	12 marks

In class-work and daily assignments the teacher should regularly check the notebooks of the pupils to assess the work done. The quality of work, punctuality and completeness should be the basis for the assignment of marks. Marks may be recorded in the notebooks. The teacher should also keep a diary or a log-book in which the marks secured by the pupils in class-work and in daily assignments are recorded.

Periodic tests administered to pupils in theoretical work may be quarterly, weekly or monthly. The technique of evaluation should be the same as in external examinations.

An evaluation programme designed and put into effect on the basis suggested here will prove a great help to the teacher in solving the problems of the pupils, who in turn will develop the right approach to scientific study. Parents will also be made familiar with the periodic progress of their children.

P. K. Sharma

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An Investigation into Classroom Discipline[1]

THE PROBLEM of student indiscipline has assumed alarming dimensions. Ever-increasing incidents of defiance of authority, even by pupils at the secondary stage, have made educators and the public sceptical about the efficacy of an educational system which does not divert energy into the right channels. The adoption of suitable measures to check growing disorder has become imperative. Since the teachers' whole-hearted co-operation is essential to the success of such a programme, their views regarding the contemplated measures should be ascertained.

The present study is an attempt at eliciting the reactions of teachers to the various methods of inculcating order among pupils at the secondary stage. The reason for confining this study to the secondary stage of education is that this stage comprises the most turbulent years of adolescence and it is here that the patterns of behaviour are firmly established.

It should be understood that the problem studied in the investigation was that of class order and not discipline. The former is more specific than the latter, which is a much wider term. Discipline implies the establishment of behaviour habits that impel the individual to act in a socially useful manner, while order is the manifestation of a disciplined nature. In common parlance, however, discipline is used synonymously with order.

The Method Used

The investigation was based on a normative survey type of research. A questionnaire containing ten statements, embodying the various causes of student disorder (including one statement which was intended to ascertain the factual position), was drawn up and circulated to 262 teachers in Delhi who represented a cross-section of the teaching profession. Out of this number the responses of 185 teachers, i.e. 70.6 per cent, were found in order. The rest either failed to respond or their responses were rejected for various reasons. The respondents were required to give their opinions on a five-point scale assigned numerical values as follows:

Strongly agree	...	4	Disagree	...	1
Agree	...	3	Strongly disagree	...	0
Undecided	...	2			

The numerical values thus obtained were later converted into percentage scores.

[1] The views expressed in this article are the investigator's and do not reflect the views of the Planning Commission.

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Analysis and Interpretation of Data: the Factual Position

'The tone and order in schools has, on the whole, deteriorated since Independence.' This statement was intended to measure the agreement of the teachers on this problem. The percentage scores given by the teachers to this statement were as follows:

	General 185	Men 120	Women 65	Teachers with			
				over 5 years' experience 121	under 5 years' experience 64	Monthly income	
						over Rs 200 83	under Rs 200 102
Percentage scores ...	70.0	73.0	64.3	69.2	72.6	67.1	70.5

It appears that all categories of teachers testified to the deterioration of order in schools since the attainment of freedom. Considered category-wise, men teachers seem to feel more strongly than others. Teachers with less than five years' experience also felt the same. That women teachers have given the lowest percentage scores to this statement is understandable because on the whole girls are more amenable to discipline than boys.

Factors in Promoting Discipline

In order to find out how far teaching personnel consider their system conducive to the enforcement of order in the classroom, the questionnaire contained four statements covering the essential requisities of a teacher's equipment in this regard. The following table gives the ranks assigned to these statements by the respondents.

	General	Men	Women	Teachers with			
				over 5 years' experience	under 5 years' experience	Monthly income	
						over Rs 200	under Rs 200
1. Generally unprepared teachers fail to maintain order	1	1	1	1	1	3	1
2. An impressive personality is a sure means of maintaining order	2	2	2	2	2	1	2
3. The more strict the principal, the better the discipline	3	3	3	3	3	2	3
4. Teachers mixing freely with pupils leads to lack of order	4	4	4	4	4	4	4

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It will be seen that preparedness of the teacher was given the highest rank by all categories of teachers with the exception of those in the higher income group, who appear to prefer the impressiveness of the teacher's personality as a means of enforcing order. The statement relating to the strictness of the principal is placed third. The teachers have invariably rejected the suggestion that their mixing freely with the students leads to lack of order. This is reflected in the low rank assigned to the statement by all categories of teachers.

Other Means to Good Order

Five more statements were incorporated to ascertain teachers' reactions to other means which are ordinarily extraneous to their personal equipment. The table below gives the ranks assigned to the statements:

	General	Men	Women	Teacher with over 5 years' experience	Teacher with under 5 years' experience	Monthly income over Rs 200	Monthly income under Rs 200
1. An interesting lesson automatically maintains order ...	1	1	1	1	1	2	1
2. There should be a boys' committee for enforcing order ...	2	2	2	2	2	3	2
3. The two-shift system is the main cause of indiscipline among school children ...	3	3	4	4	4	1	3
4. Reward is a good means of maintaining order ...	5	5	3	3	3	4	4
5. 'Spare the rod and spoil the child' is a correct maxim for maintaining order in schools ...	4	4	5	5	5	5	5

The above table reveals that the statements relating to an interesting lesson and the boys' committee have been ranked very high, although teachers in the higher income group have given first preference to the two-shift system. The varying marks assigned to the fourth statement indicate indecision. While the teachers in general and men teachers in particular accord it the last position, women teachers and teachers divided on the basis

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of experience accord it the third position. The fifth statement has been accorded the lowest rank by all but the general group and men teachers. It appears that both these categories of teachers have testified to the efficacy of punishment as against rewards in bringing about order in the classroom.

An Over-all View

It might be useful to study the rank order of all the statements taken together to gain a better perspective. The following table gives the order of all the statements.

	General	Men	Women	Teachers with			
				over 5 years' experience	under 5 years' experience	Monthly income	
						Over Rs 200	under Rs 200
1. An interesting lesson automatically maintains order	2	2	1	2	1	3	1
2. Generally unprepared teachers fail to maintain order	1	1	2	1	2	7	2
3. An impressive personality is a sure means of maintaining order	3	3	3	3	3	2	1
4. There should be a boys' committee for enforcing order	4	5	4	4	4	4	6
5. The more strict the principal, the better the discipline ...	5	4	6	6	5	5	4
6. The two-shift system is the main cause of indiscipline among school children ...	6	6	8	8	7	1	7
7. Reward is a good means of maintaining order	7	7	5	5	6	6	8
8. The teachers' mixing freely with the boys leads to lack of order	7	7	7	7	8	8	5
9. 'Spare the rod and spoil the child' is a correct maxim for maintaining order in schools	8	8	9	9	9	9	9

It is seen that the highest rank is given to the statement about making lessons interesting. The next two statements relate to the personal equipment of the teachers. Punishment as a means of maintaining order has been definitely rejected by all categories of teachers. The efficacy of rewards, however, has not been recognized to any considerable extent.

Results and Recommendations

1. In order to sustain pupils' interest and thereby maintain order in the classroom, the lesson should be made interesting by

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means of visual and other aids. This, however, requires thorough preparation by the teacher.

2. While selecting teachers for admission to training institutions and later for appointment, the teachers' personal endowments, such as personality, character and temperament, must be given due importance.

3. A boys' committee should be set up in secondary schools to enable pupils to punish the cases of deviation from normal conduct. This is likely to have a very salutary effect on the tone and order in schools.

4. Teachers' mixing freely with the pupils is conducive to maintaining order.

5. Rewards for good conduct may be given to deserving pupils so that they may be emulated by the so-called delinquents.

6. Punishment should be used as sparingly as possible because its frequent use hardens the offender.

J. L. Azad

Book Reviews

People of the World (Oxford University Press, 1958), Series 1 and 2, Pott 4to, pp. 196, 9*s.* 6*d.* each.

This is a handsomely produced series, well-written and illustrated, which should give children an added interest in their geography lessons.

Six separate sections are included in each book, each section being written by a different author with a special knowledge of the region he describes. Series 1 tells of important occupations in various parts of the world, such as lumbering in Canada, sheep-farming in New Zealand, tea-planting in Ceylon, and fruit and wine farming in South Africa.

Series 2 is concerned with the native peoples. The authors write about 'A Visit to Zululand', 'The Maoris of New Zealand', 'The Sherpas of Nepal' and 'An Indian Village in the Deccan'. The last two chapters will be of special interest to Indian children.

The authors also discuss the cultures of the various peoples, and this blending of history and geography enhances the value of the books. Even the discriminating teacher of English can recommend them to his pupils for supplementary reading. The style is attractive, the language clear and simple without being oversimplified, and the black-and-white illustrations will charm both the very young as well as the seniors.

Perhaps the books might have been improved if there had been a regional basis for the selection of topics.

All these twelve sections are available separately if preferred, at 2s. each.

* * *

A. T. Grove: *A Sahara Journey.* Filmstrip No. CX 6213. Regional Geography Series. (Educational Productions, Wakefield; produced for the London County Council.) 36 frames. 27*s.* 6*d.*

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This is another beautifully coloured filmstrip produced for the London County Council, which is a 'must' for all schools having a filmstrip projector. It consists of 36 frames, illustrating the greatest desert in the world, an area of about three million square miles.

Throughout history, the Sahara has been a barrier to communication between the civilized Mediterranean lands, including those lying along the northern coast of Africa, and the people of the Guinea Coast and Central Africa. The story of the Sahara centres round the camel caravans and the nomadic tribes wandering from oasis to oasis in search of pasture for their herds. In spite of the railways which have been built within the last 60 years to link the north with the rest of Africa, the Sahara still remains one of the least known and least productive areas of the world.

The photographs were taken in the course of an actual journey made by bus through Algeria and French West Africa, following the route already surveyed for a trans-Sahara railway. A true record has thus been obtained of the many varieties of flora, fauna and human life which are to be found from the Arab north to the Negro south of the desert.

The main purpose of the filmstrip is to indicate the factors which have determined the part the Sahara has played and is still playing in the history of the African continent. The geographical aspect is vividly portrayed by a relief map depicting the seas of sand—the deadly monotony of the desert—as also the skirted sharp escarpments and the cliff-like margins of the sand seas. Other frames, beautifully coloured, show the climatic features: the distribution of rainfall, the vegetation belts, the oases with their irrigation, the thorny shrubs and bushes and the creeping, crawling life of the desert.

A good portion of the filmstrip is devoted to the life of the people and the sharp contrast between the people of the oases and the nomads. What has recently been done by the French authorities—such as founding schools for the children of the nomads and building market-towns—brings the story of the Sahara up to date.

No child can forget the geography of this vast desert if he is shown this filmstrip, which is an excellent teaching aid.

* * *

A. V. MATTHEW: *Psychology and Principles of Education* (Literature Press, 1959), Crown 8vo, pp. 534, Rs 8.50.

This is the third edition of a well-known work. All the chapters have been slightly revised and some new material has been added to those on 'State of Growth' and 'Mental Hygiene'. A new chapter on 'The Curriculum' has been added.

The book is divided into four parts. Part I deals with 'Aims in Education', and 'Psychology and the Teacher'. Part II discusses 'Fundamental Facts in Education', and is concerned more with educational psychology than with principles of education. 'Psychology of Learning' and 'Psychology of Conduct' are treated in Parts III and IV respectively.

This is an improvement on the last edition, but many new developments in educational philosophy and psychology have not been touched. Also, the chapters could have been arranged in a more logical order. For example, the one on 'The Curriculum' should have followed the chapter on 'Aims in Education'. The chapter on the 'Principles of Education' has little bearing on present Indian educational thought and practice. The book was perhaps planned more than two decades ago and has not kept pace with the requirements of teachers and educationists.

It is interesting to note that while the author is not wedded to any system of psychology he is inclined to support McDougall's system.

The language of the book is simple, and the author has presented his thoughts in a very clear, concise manner. Each chapter contains a brief

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bibliography, which should be helpful to the reader. At the end of the book questions from examination papers set at various universities are given. The book will be useful to students of those training colleges where the courses of study have not been radically changed.

* * *

LAEEQ FUTEHALLY and SALIM ALI: *About Indian Birds* (Blackie, 1959), Crown 8vo, pp. xiv+82, Rs 2.

This is a very well-contrived and attractively written introduction to Indian ornithology. It is primarily a book for older children, and can be highly recommended for the secondary school library. However, few adults could read it without learning a lot and being greatly entertained in the process. Mr Salim Ali's standing as the foremost living authority on Indian birds is internationally recognized and his reputation as an author unquestionably justified. Laeeq Futehally is a deservedly successful writer for children; their combination here has produced a book which is throughout both scientifically sound and happily attuned to the young understanding. There is no coyness or sentimentality here; the occasional anthropomorphism is judiciously handled, and no stylistic simplification threatens the precision of the scientific facts discussed or obscures the serious purpose of the book. The language is clear, vigorous and witty. It is enjoyable to read and highly informative.

A great deal of substance is presented in a mere eighty-two pages. The first quarter of these is spent in defining the place of birds in nature, and in discussing their life-cycle, courtship, nesting, and migration. The rest contain descriptions in narrative form —for this is a book to be read chapter by chapter, and there is no index—of about fifty of the commoner species or families of species to be seen widely all over India. These are sensibly arranged by habitats, under such heads as the birds of the town, of the village jheel, of scrub and jungle. The salient points that must be known for the correct identification of species or families are vividly noted, but behaviour is rightly given predominance over minute details of plumage, so that an all-round portrait of each kind is swiftly painted with great economy and clarity. The child will understand it all and relish it. He will want to learn more, and make observations for himself.

Throughout there is a commendable and sustained emphasis on the value of birds to men, their place in the chain of natural forces, and the need for humanity to avoid dislocating the interdependence of all forms of natural life by the indiscriminate destruction of birds, even those which are apparently its enemies. 'In most cases the same birds are the farmer's friends or foes at different times of the year and in different parts of the world', and 'If we worked out the implications of all the different habits of a bird, we should probably find that the amount of harm it does is balanced by the good, and all its actions are justified', are two related observations found in Chapter 7 which deserve the careful attention of all educationists. In their Introduction the authors restate the dangers of ignorance and negligence in dealings with wild life, and make a clearly-reasoned appeal for its preservation: their book should do much to educate its young readers rightly in this vital matter.

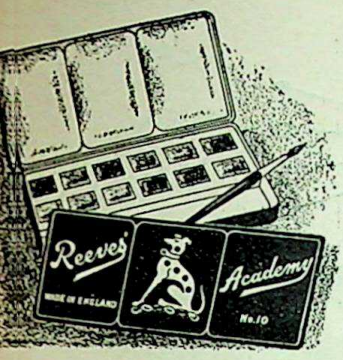
The cover is dull, and line drawings would have made much clearer illustrations than the half-tones used, which by no means do justice to the artist's talents. But the book is, in its content and the authority behind its facts, excellent value for two rupees.

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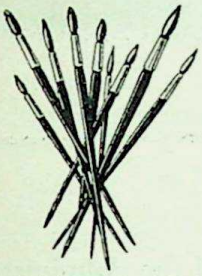


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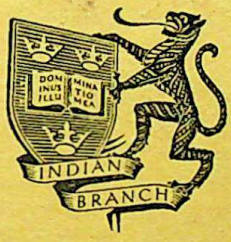
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FOR TEACHERS



MARCH 1960

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TEACHING

A QUARTERLY TECHNICAL JOURNAL FOR TEACHERS

Editor: MARGARET BENJAMIN

VOL. XXXII MARCH 1960 No. 3

Editorial

THE Report of the Secondary Education Commission made the following recommendation in 1953:

'We should like to commend in this connexion a new experiment undertaken in one of the States, whereby a certain number of selected schools have been released from the usual Department regulations about curricula, methods and textbooks and given the freedom to work on new experimental lines. If a few progressive schools are established in every State, where experienced teachers would be free to work out an improved syllabus and methods of teaching and discipline, they might, in due course, help to leaven the whole educational system.... We recommend that such experimental schools as are in existence or which may be established in future should receive due encouragement at the hands of the State and Central Governments....

'In order to popularize progressive teaching methods and facilitate their introduction, "Experimental" and "Demonstration" schools should be established and given special encouragement where they exist, so that they may try out new methods freely without being fettered by too many departmental restrictions.'[1]

This recommendation later inspired the All-India Council of Secondary Education to promote worth-while projects in Secondary schools. The object was to encourage them to try experiments that would lead to better methods of teaching, enrich school programmes, or lead to more efficient school organization. The purpose of this scheme was linked up with the Council's general aim to help raise the standard of Secondary education all over the country. The All-India Council promised financial support to worth-while projects which fulfilled certain conditions.

[1] *Report of the Secondary Education Commission* (1952-3), pp. 115-16 and 118.

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The scheme could be effectively implemented only with the co-operation of the State departments of education, which were asked to submit the names of certain Secondary schools willing to undertake projects of the kind described above.

One cannot say to what extent the recommendations of the Secondary Education Commission have been implemented, but we are informed that the Ministry of Education does issue a list of such schools with the names of the projects they have undertaken.

In Bombay State the so-called ' experimental schools ' have a different history. About four years ago representations were made by certain schools in this State to the Government, protesting against the rigidity of syllabuses and textbooks. As a result the Government decided to give freedom to some schools in the State to work out their syllabuses in their own way, and even to use text-books other than those on the sanctioned lists with the permission of the Education Department. These schools were subsequently officially recognized as ' experimental schools ' and are inspected by a regional panel of experts appointed by the Government. Some of these schools also undertook projects and experiments under the All-India Council's scheme and have obtained financial aid from the Council.

Another term that has come into vogue is 'demonstration schools'. Demonstration schools are generally attached to training colleges.

Besides the types of schools mentioned above there are others which may not be officially recognized as experimental, but which are carrying out useful projects and giving a new orientation to many aspects of school life. Some of these are described in this issue.

While thanking those who have given us the benefit of their experience, we feel there are many others who are doing sterling work in this sphere of education and a description of whose work would be of great value to our readers.

The next special issue of TEACHING (September, 1960) will be on the Teaching of Geography.

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Two Experiments in Education

The Netarhat Vidyalaya, Bihar

No one who has seen with an impartial eye the schools in India which are recognized by and affiliated to the Indian Public Schools Conference can possibly deny that, by and large, they are all far better staffed and equipped to impart a first-rate all-round education than the great majority of ordinary secondary schools of this country. There is nothing surprising about this, for all those schools without exception charge fees far in excess of what the ordinary Indian parent can afford to pay; only thus are they able to provide good buildings, good equipment, and well-qualified teachers. As a result, all such schools are at present exclusive, recruiting most of their pupils from the wealthier classes, not because the promoters wish them to be exclusive, but simply because such schools cannot be run cheaply, and there is no way at present of meeting the cost of running them except from the fees paid by the parents. This is all the more so because no grants-in-aid are now given to them either by the Ministry of Education or by the education departments of the states.

It is true that it is increasingly becoming possible for children of less well-to-do parents to gain admission to the Indian public schools by means of the system of merit scholarships awarded by the Government of India, as also by some of the states and a few private philanthropists. In exactly the same way the famous public schools of England are increasingly admitting scholarship-holders. But it cannot be denied that, unless and until the number of such scholarships becomes very much larger than it is at present, the majority of children educated in the Indian public schools will be drawn from the class of people able to pay the relatively high fees charged for the first-class education they offer.

Basis of Merit

Having been responsible for starting two Indian public schools, and for running one more for some time, it distressed me very much to see that money rather than merit was in most cases the qualification necessary for gaining admission. When, therefore, in 1950, the Government of Bihar invited me to prepare a scheme for a residential school for that state, I welcomed the opportunity to plan a school which, incorporating the most valuable features of the Indian public schools, would recruit its pupils on the basis of merit, and of *merit only*. To my considerable surprise, my scheme was approved *in toto*; I was invited to recommend a suitable site for the new school, to advise regarding its buildings, equipment and staff, and to help in getting it started. The Netarhat Vidyalaya

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was opened in 1954 with 60 boys; it is now in the sixth year of its existence with about 300 boys on the roll.

I shall not occupy space in describing those features of the school which it has in common with most other good residential schools in India, but I shall mention some which are unusual and likely therefore to be of special interest to readers of this journal. First of all, the school is situated in a remarkably beautiful place. The undulating summit of the Netarhat plateau is at about 4,000 feet above sea-level, mainly forest-clad, but with fine open stretches of grassland and plantations of pine-trees here and there.. It is, I believe, the only region of Bihar State that could be developed as a hill-station, and I have no doubt that owing to its healthy and moderate climate, and the amenities now being provided (water-supply, sanitation, electricity, communications, food-supplies, housing, education, and recreation) it will so develop in the next few years. The school occupies the best part of the plateau, and a very extensive area has been reserved for its present needs and for future developments.

The most original feature of the Netarhat Vidyalaya lies in the fact that admission is solely by selection on the basis of merit. It operates in the following manner. A preliminary selection examination is conducted by the Education Department at forty district centres in Bihar State, at which any boy (unfortunately there is no similar school for girls at present) under eleven years of age, whose parents are resident in Bihar, may appear. This test is intended only to sift out wholly unsuitable applicants. Those selected in this preliminary test, about two to three hundred annually at present, are sent to Patna at State expense, and are there interviewed and re-tested only by the principal of the school and by a psychologist. There is no room for string-pulling: 60 boys are chosen entirely on the basis of merit, and the selection is final. The income of the parents of the chosen boys is then looked into, with the assistance of the income-tax authorities where necessary. If the parents' income is above Rs 1,000 a month, they have to pay the whole cost of the education of the boy in the school (the course being of six years' duration, up to the Higher Secondary examination of Bihar State). The full fees (which cover board, lodging, education, clothes and books) amount to about Rs 1,200 per annum. But if the parents' income is below Rs 100 a month, the State bears the entire cost of the selected pupil, including clothing and travelling expenses. For those whose income is between Rs 100 and Rs 1,000 a month there is a sliding scale of fees, proportionate to the income.

It may be of interest that among the 300 or so boys now in the school more than a hundred are from homes in which the parents'

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total income is less than Rs 100 per month, and of those nearly 50 are the children of Adibasis. It is noteworthy that many of the latter appear to be exceptionally talented in arts and handicrafts.

Special Features

The Netarhat Vidyalaya has been built up both materially and educationally according to a carefully planned programme, for the successful implementation of which a great deal of credit must go to Mr L. P. Singh, Chief Secretary to the Government of Bihar, and to Mr J. C. Mathur, Secretary for Education, at the time when the school was being planned and during the first years of its existence. Accommodation was first provided for the residence of 60 boys between the ages of ten and twelve with the necessary staff. In each subsequent year additional buildings were constructed and equipped to accommodate 60 more boys and the necessary additional teachers. All new admissions are made into the lowest class of the school. The academic buildings are now practically complete, with first-rate laboratories, library, art and music departments, and fine workshops for a variety of handicrafts. There are also, of course, proper facilities for physical education and team games.

Another special feature of the school is the residential system, planned as a result of the wide experience I have had of various kinds of hostels in a number of Indian schools and colleges. The school will ultimately consist of six houses, with about 60 boys in each; but instead of having all the boys in several large dormitories, each house has three ashrams, and in each ashram 20 boys reside with a housemaster. The ashrams have been designed and built on the lines of Indian family houses, with rooms grouped round a central courtyard. On one side there are three large, airy bedrooms, each accommodating six to eight boys, with bathrooms and lavatories adjoining; at the other side of the courtyard there is a dining-hall and a study-room. Between these, at the front, are quarters for the housemaster, his wife and family; the fourth side of the quadrangle is occupied by a sort of pergola which can be used as a common-room or for indoor games. Each house, or set of three ashrams, has a common kitchen connected by covered passages to the pantry of each ashram, a room adjoining the dining-hall. The purpose of this arrangement is to avoid the multiplication of kitchens and the waste which might occur if each ashram had a separate kitchen. It has been found that if food is cooked for about 70 people, it is economical without being too stereotyped. At meal-times, two or three boys from each of the three connected ashrams (taking the duty by turns) prepare the dining-hall, fetch the food from the kitchen and serve it to their fellows. After the meal each boy

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washes his own plate in the pantry, where hot water is on tap, and puts away the utensils. Another group cleans the dining-hall in readiness for the next meal. The ashrams have no servants, but there are servants in the kitchen to help the cook and to clean the cooking-vessels. Each group of three ashrams has a matron in charge of the kitchen, the wife of one of the housemasters usually doing this work. It is obvious that this kind of hostel has the great advantage of keeping the housemasters in close and constant personal touch with the boys; the atmosphere is homely, and problems of discipline are greatly minimized. Housemasters at Netarhat have been unanimous in testifying to this.

A Democratic Solution

Experience in the Netarhat Vidyalaya over the past five years seems clearly to indicate that an institution on such lines is a complete answer to the criticism that first-class residential schools are necessarily exclusive because they are expensive, and that they therefore produce first-class snobs. What a school of this kind really does is to provide the best available education to those best fitted to take full advantage of it. It is sometimes argued by those who claim to be democrats that, as we cannot afford to give everyone in India a first-class education, we should therefore utilize our limited means to provide the same kind of education for all, even if it has to be of second-rate or third-rate quality. This seems to me to be a short-sighted and unwise policy. Schools of the Netarhat pattern offer an effective as well as a truly democratic solution. If every state in India followed the example set in Bihar, and established even one such school, nearly a thousand selected young men would come out of those schools every year, well trained in self-discipline, in self-reliance, and in responsibility. What is a mere thousand in a population of several hundred millions? The answer is that it is such men who are the leaven of society, and only by finding them, giving them the fullest opportunity to develop, and using them, can the level of society be raised.

The Rishi Valley School, Andhra Pradesh

The Rishi Valley School might be simply described as an attempt to re-establish in a modern setting the relationship which existed, or which is said to have existed, between the gurus of ancient India and their *shishyas*.

Such a claim might sound presumptuous, but it must be borne in mind that it should not be interpreted too literally, and also that

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stress is laid on the qualifying phrase 'in a modern setting'. It must also be explained that the name 'Rishi Valley' was not given to the place with the intention of suggesting that any of the workers is a modern *rishi*. In fact the name is quite accidental; the place is called Rishi Valley because it lies at the foot of a hill named Rishi Konda. A *rishi* might have resided there in ancient times, but there is definitely no trace now of any such person in the neighbourhood.

The valley is ideally suited for the purposes of a residential school of the kind which has grown up there in the past ten years. It is a lovely, peaceful place, ten miles distant from the nearest small town, Madanapalle, in the Chittoor District of Andhra Pradesh. Being at an altitude of about 2,400 feet above sea-level on the Rayalseema uplands, it enjoys a healthy, moderate climate all the year, in which there is no need for protection against either heat or cold. Also, there are no excessively heavy or continuous rains; for the greater part of the year it is very pleasant to hold classes in the open air in the shade of trees. If the place suffers from any disadvantages at all, it is owing to occasional deficiencies of rainfall, which adversely affect mainly the farming operations.

The school stands in an estate of about 400 acres in which its promoters, a registered philanthropic society known as the Foundation for New Education, also run a farm and a dairy which, in normal years, provide all the grain and a considerable amount of other foodstuffs for the balanced nourishment of the residents. The rural situation of the school is not only one of its greatest educational assets, but also enables it to be run at a lower cost than most of the other Indian public schools.

Emphasis must however again be placed on the fact that though Rishi Valley is in a remote rural setting, it is modern in regard to amenities such as domestic water-supply, lighting, sanitation, medical facilities, and equipment for a first-class all-round education. But, because it aims at maintaining a close relationship between teachers and pupils, it is a small school. It is wholly residential (the entire staff also living in the school area) and co-educational; its present enrolment is about 120. Children are admitted between the ages of six and eight years, and most remain up to the standard of the Cambridge School Certificate examination. There is a long waiting-list for admission to the school.

As might be expected in view of the aim stated at the beginning of this article, a special feature of the school is its residential arrangements and the small size of its academic classes. There are at the time of writing seven houses, in each of which from 12 to 18 children reside, with their housemother or housemaster, in a very homely atmosphere. There are separate houses for the older girls and older

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boys, but the youngest children of both sexes live together up to the age of eight years or so, in the care of housemothers or of a married couple, whose own children also live in the house.

The school resembles most of the other Indian public schools in providing specially good facilities for arts and crafts, music, and Indian dancing. It has a fine open-air theatre under a great banyan tree, playing-fields for all team games, provision for physical education, swimming, hiking and rock-climbing, nature-study and gardening.

Vertical Division for Academic Work

Academically the school, small as it is, is divided into three sections, the Children's school, the Juniors, and the Seniors. In most of the academic groups there are not more than 15 children, and fewer in the senior classes where specialization takes place. Until recently a special feature of the school was its vertical division for academic work, in such a way as to enable each child to proceed at his or her own pace in each of the main subjects: Indian languages, mathematics and science, English and social studies. In the Junior and Senior sections of the school each of the above groups of subjects was held in a particular period, all the Indian language classes at the same time, all the mathematics and science at another, and all the English and social studies at another. This enabled a child who was advanced in one or more of those subjects to work along with those of a higher group, while a more backward pupil could work with a lower group. As the classes were small, a great deal of the written work was done individually, under the guidance of the subject-teachers, and there were no marks or annual promotion examinations. The work done each day was scrutinized by teacher and pupil together, and tests were given when necessary, to enable the pupil to see how he or she was progressing, without making progress a matter of competition. If the prescribed course of the year was satisfactorily completed by a pupil in less than a school year, the pupil was promoted to the next higher group, or could proceed to the next year's course under the same teacher if that was considered preferable for any reason. Naturally, as is actually the case in all schools, there would be some pupils far above the average in certain subjects but backward in others. With classes of the usual kind such children are either held back by having to go at the average pace, or hold others back if they are below the average. By means of the vertical division this need not happen, and each child can progress at his own pace in each subject, with each teacher's individual help and attention. In the senior section of the school, consisting of the topmost three groups, in the highest of which a

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public examination may be taken; the levelling-up takes place. The pupils are there helped to devote more time to the subjects in which they are backward. This is possible because the groups in the Senior section are often even smaller. Needless to say, a vertical grouping such as described here would be difficult in a large school, though not impossible perhaps if a modified form of the Dalton Plan were followed, as for example in Bryanston School in England.[1]

It is hardly necessary to point out that the right relationship between the teacher and the pupil cannot be brought about simply by organization, however perfect. It depends mainly on having the right kind of teacher. The wrong kind of teacher will certainly not be able to help his pupils to grow integrally, however closely he may follow even the most perfect system. It is in this connexion, perhaps, that there is a danger of misunderstanding the term guru if we make use of it here. It is often associated with the idea of a religious teacher to whose authority and instructions the pupil completely subordinates himself. It is not the aim of the Rishi Valley School, I think, to establish that sort of relationship. In the educational field, in modern times, the function of the guru surely is not to teach the pupil what to think, or even what to do, but to help him to develop sensitivity and intelligence, so that he may observe and understand himself and the environment around him, both living and non-living, and thus discover for himself the way to live. That is the aim of the Rishi Valley School.

F. G. PEARCE

The Teaching of Second Languages

The Three-Language Formula

WHAT HAS BEEN TERMED in educational circles 'the three-language formula' has been universally accepted, at least in theory, throughout India as the future language pattern for the country. The question whether an average child will be able to learn effectively two second languages with any degree of success will, however, remain a controversial one. Still, an honest attempt must be made to implement, as far as practicable, the three-language formula in the nation's schools.

The State of West Bengal was one of the first states in India to accept and take steps to implement this formula, and the Anglo-

[1] See *Teaching*, Vol. XXI, No. 1, 'Intellectual Indigestion; its causes and cure' by F. G. Pearce.

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Indian schools here have been in the forefront of the movement to evolve a satisfactory solution to the problem of teaching all children three languages.

Since the medium of instruction in the Anglo-Indian schools is English, this is inevitably the first language, even though it is not perhaps the mother-tongue of the majority of the children studying in these schools. Bengali, being the State language, is the second language in the schools, and Hindi the third language.

The Mudaliar Commission and the Central Advisory Board of Education have recommended that both the second and the third languages be started at the lower high school level, in Classes VI or VII. Those connected with Anglo-Indian schools have always felt, and their experience bears this out, that this stage is too late to start the teaching of second languages. Accordingly, the common practice (since most Anglo-Indian schools are combined primary and secondary schools with classes from the kindergarten to Class XI in the same school under the same principal and management) has been to start Bengali from Class III, and Hindi two years later in Class V when the children have had enough time to master the elements of the former. Both these languages are taught side by side with English till Class IX, when the third language, that is Hindi, is dropped, the other two—Bengali and English—being continued till the children leave school. Hence all children studying in Anglo-Indian schools in West Bengal have approximately eight years of Bengali and five years of Hindi.

In the teaching of these languages as second languages, the direct or oral method is usually used in the first year, more or less exclusively, to build up an ' understanding ' and spoken vocabulary, and to create reading readiness. Reading and some writing are attempted in the second year.

This pattern of language teaching, which has been in operation for a number of years, has yielded fair results; yet it has not achieved all that was expected of it. Language teachers began to feel that Class III was too late a stage to start Bengali for non-Bengali-speaking children and Class V for non-Hindi-speaking children. It was observed that the children of these classes, the average ages of whom is usually eight plus and ten plus, had already developed certain prejudices about the difficulty of learning languages other than English, and the direct method was not very successful as the children were self-conscious and afraid of making mistakes and being laughed at by others. Some were hostile to the idea of making the effort necessary to learn a new language. As a result, language teachers began to press for an earlier start in the teaching of both Bengali and Hindi.

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This demand was, however, resisted by the principals of schools on the ground that children should not be burdened too early with the learning of more than one language at a time. There followed the visit to India of Dr Penfield, the eminent Canadian neuro-surgeon, who expressed the considered opinion that the earlier the teaching of second or ' foreign ' languages is commenced the better. Dr Penfield held that young children can learn two or three languages at a time without any injury to the development of the mind since the ' language centres ' of the brain for each new language learnt are distinct from one another, and that it becomes progressively harder to learn languages other than one's mother-tongue after the age of ten. These views were given a wide currency by the Central Ministry of Education and made a deep impression on many of those responsible for Anglo-Indian education in West Bengal.

The Experiment

Under the stimulus of Dr Penfield's views, and encouraged by the author, one or two schools began experimenting with the teaching of Bengali and Hindi from an earlier age than was customary. One school in particular, which was fortunate in having a couple of infant-school teachers whose mother-tongues were Bengali and Hindi respectively, began teaching oral Bengali to non-Bengali-speaking children from the kindergarten (five to six age-group) and oral Hindi a year later in Class I (six to seven age-group). Thus by the time they came to Class I, the children were learning three languages—English, Bengali, and Hindi. Of course the level of learning was quite different. English was the medium of instruction for all subjects, while Bengali and Hindi were learnt on a very elementary, purely oral and imitative level. This experiment has been tried over the past two years and has yielded encouraging results.

Before attempting to assess these results, a brief description of the actual experiment is necessary.

The objectives of the teaching of these second languages in the first couple of years are very modest.

Firstly, those responsible for the experiment aim to foster what may be described as ' second-language readiness ', to create a favourable psychological climate in the minds of these young children towards the study of second languages so that they will approach them with minds relatively free from prejudice, apathy or hostility. Young children, as is well known, are eager to learn new things, and enjoy the repetition and drill-work involved in learning a new language through the Direct Method. Hence there is a greater chance of using this method successfully to stimulate an interest in new languages at the ages of five and six than at eight and ten.

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The second objective of the experiment is to provide the children with a basic vocabulary and basic speech structures in the new languages through imitation of the teacher, repetition and drill. This enables them to speak the language from the very start, to frame simple sentences to express their desires and wants, and to describe the common objects around them. The building up of a basic functional vocabulary is vital to the creation of reading readiness, and ensures that when the child first begins reading he will understand most of what he reads and will not need the meaning of every word explained to him again and again.

These two primary objectives dominate the teaching of new languages in the first year and half of the second year, and reading and writing are attempted only towards the second half of the second year.

The syllabus and methods being used to achieve the above limited objectives are still in the formative stage. The syllabus usually consists of the following:

1. A basic vocabulary dealing with common objects and experiences.
2. A certain number of common and basic speech patterns.
3. Simple songs and nursery rhymes, both in the original languages and in the form of simple non-literal translations, into Bengali or Hindi, of well-known English nursery rhymes which can be sung with appropriate actions to the original tunes which are familiar to the children.

The first two elements of the syllabus are taught largely through associating Bengali and Hindi words direct with the object, action or picture concerned, without the interposition of English as far as possible. Repetition and appropriate exercises in simple speech-patterns are also effective. One short period, of 15-30 minutes duration every day, is set aside to teach these languages, as young children tire easily.

Evaluation

How far has this experiment been successful? It is too early to estimate this with any degree of finality or exactitude, but the results achieved so far, in the school to which reference is made earlier in this article, are distinctly promising.

If enthusiasm on the part of the children and of the teachers is any indication of the success of an educational experiment, then this experiment in the teaching of second languages in the infant classes should qualify *cum laude*, for both children and teachers

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are clearly enjoying the new experience. Nor have the actual results been inconsiderable. When the author inspected the school in question, these were demonstrated to him in the following manner. Half-a-dozen children aged five to seven, whose mother-tongue was neither Bengali nor Hindi and who had been learning both languages for a year by the direct methods described earlier, were chosen by him at random from Class I. The class teacher and the teachers of Bengali and Hindi (one teacher in this case combined two of the three functions) then made the children recite simple poems and sing action songs in all three languages. They were also asked to answer simple questions in English, Bengali and Hindi. The author was struck by three things: the evident enjoyment of the children in participating in what they regarded as a sort of game, the correctness of their intonation and pronunciation, even in comparison with older children, and the relative ease with which they switched from one language to the next without confusing one with the other as an adolescent, or an adult learner for that matter, would almost certainly do if he were required to change from one language to a second and from a second to a third in rapid succession.

The above results are not conclusive proof of the success of this daring experiment, which appears to run contrary to the teaching of most educationists and psychologists who hold that children should be taught no language other than their own in the years of infancy. But on the other hand there is no evidence that the psychological development of the young children who took part in the experiment has been retarded or harmed in any way, as many psychologists warned it would be. On the contrary, they seem more alert and responsive to the learning of second languages than the older children who did not start learning these languages in their infant years, and they have already acquired a basic foundation in these languages on which to build in later years. At any rate, enough evidence of its relative success exists to prove that the experiment is well worth trying in other states in India, for only a revolutionary approach of this type is likely to make possible the successful working of the three-language formula. It is one thing for politicians to proclaim an ideal formula, it is quite another when principals and teachers are called upon to implement such a formula in the schools. The experiment described here may provide a pointer as to how this implementation may be attempted in our schools.

AUSTIN A. DE SOUZA

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An Experiment in Social Studies in Standards V, VI and VII

SOCIAL STUDIES is a subject much talked about, but the synthesis of curriculum aimed at is very little understood by teachers. An attempt was made to focus attention on this new interpretation in TEACHING in December 1947.[1] Since then new developments have taken place, and in the light of these an experiment is being worked out in the St Columba High School, Bombay. It is a simple, integrated course which will serve as an introduction to the more systematic study of geography and history at the higher secondary stage, when the pupils' minds are more mature.

Some Criticisms

All those who are self-critical must occasionally have doubts about the value of what they are teaching. Are we satisfied with the conventional teaching of history and geography? In our present syllabus there is a great deal of unnecessary repetition. Also, the geography syllabus in some classes is overloaded, while in other classes there is hardly anything new to be taught. Very often we make our pupils mere passive listeners during these periods. We are so examination-minded that the passing on of information is given far more importance than the development of qualities and attitudes which are required for satisfactory living in the society of today. In fact we lose sight of the broader aspects of education. According to H. B. McNicol: 'Our general educational aim is to fashion the individual so that he may have an understanding of, a right attitude to and the ability to manipulate his environment.'

The Experiment

In Standards V and VI the emphasis of the syllabus in social studies is on 'environment' and 'heritage plus history'. Geography and Civics have no separate existence at this stage. While much of the prescribed departmental syllabus in social studies is covered, the approach is from a different angle. Our particular aim is to interpret his environment to the growing citizen so that he may enter his heritage with sympathy and understanding and become adjusted to society.

The study of the local environment, beginning with the basic needs of man, is the starting-point. From where do we get rice? Why is it grown there? How do we get sugar? In this manner all the important articles of food which the particular group of children use are discussed. This study is gradually extended to

[1] See the article 'Geography as the Basis of Social Studies' by this author in *Teaching*, Vol. XX, No. 2.

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wider regions: the home, the neighbourhood, the country, South-East Asia, and the world. The life of the people who produce food, the interdependence of the community, the story of cotton and other materials used for clothes, the different types of houses in the various parts of the world, and developments in transport are some of the focal points. Food values and meal-time manners, aesthetic sense in dress, and the care of home and surroundings are discussed incidentally. The practical work includes weather observation, growing cereals and vegetables in the school garden, visits to farms, and making models.

A survey of the school's locality is another important topic of study this year. A great deal of history can be learnt through street names and statues. The information gathered is bound to be fragmentary, but to my mind the important thing is the historical approach. Let the children see that the past is inextricably woven into the present. A beginning is made for map-making and map-reading. There are also several topics for further investigation: the people, their occupations, and any other aspect of local life. In a place such as Bombay interest in local industries can be created by making children observe some of the advertisements.

Education in the art of communal living is one of our greatest needs. The habit of acting as a member of a group should become part of the child's nature, and training must begin in the home and in the school. Here again, the interdependence of the community is emphasized. How does the community provide for our safety, health, recreational and cultural needs? The need for inter-communal and inter-regional understanding is also shown. What are the different types of people who live in our neighbourhood? What are some of the festivals they observe, and why? There are differences in food, clothes and even in religion, but there can be unity in diversity.

In Std. V the emphasis is on environment; and in Std. VI the course is based on heritage. Our aim is to make the pupils realize that they are heirs to a rich heritage, and also to give some idea of the origin and development of culture and civilization in our country. For this purpose, topics are selected from the ancient Muslim and Maratha periods which relate to the development of religion, literature, art and architecture. It is very important for children to see that the rich heritage of India draws its contributions from diverse races and through many centuries. It is also essential that the future citizen should understand something of the working of the machinery of the modern state. Hence, the form of government in the city, in the state, and in the country, is also studied in outline in Std. VI. This study is enlivened in many practical ways which a resourceful

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teacher can work out. This year the horizon is widened to include our neighbours Pakistan, Ceylon, and Burma.

In Std. VII our vista is further widened to a 'global outlook'. One way of doing this is to allow the children to discover the world with the explorers. They should be aware of the fact that our knowledge of the world has been gained slowly and through the ages. The course begins with a carefully chosen account of the world's exploration and ends with the achievements of the twentieth century —the triumphs in the North Polar basin and the Antarctic continent, the conquest of Everest, and the accurate surveying and map-making of different parts of India. It is necessary for the pupils to realize the difficulties encountered by the early explorers in their small, frail ships: dependence on winds, inadequate means of carrying food and other supplies, and the absence of modern scientific instruments. The variety of geographical conditions found on different parts of the earth's surface, factors of climate and vegetation can be learnt more or less incidentally.

The need for a new route to the East stimulated early exploration. So, during the course of this study of the history of exploration, we should also note the contact between the West and India. Alexander came to India in 323 B.C. Imperial Rome obtained some luxury articles from India. It is believed that St Thomas, a disciple of Jesus Christ, came to the Malabar coast, from Palestine, in A.D. 52. As regards our contacts with European nations beginning with 1498, no useful purpose is served by making the children learn all those uninteresting details of warfare and conquest in the early part of the British period of Indian history. The contribution made by the British to life in modern India is worth considering. But more important is the development of the two-way traffic. From the time of Raja Ram Mohan Roy eminent men from India visited countries of the West. Dadabhai Naoroji, Vivekanand, Tagore, Sarojini Naidu, Mahatma Gandhi and Jawaharlal Nehru are only a few examples. What contributions did they make to our country and to the West?

Our particular aim this year is to bring about better understanding among the peoples of the world. This cannot be achieved without having some idea of the people of other countries as they are today. Hence, we have imaginary visits to the United Kingdom, the United States, the Soviet Union, and the United Nations organizations. The children study their characteristic features, mainly with the help of maps and films. The nations of the world too are interdependent. In a shrinking world, we need not only inter-communal, inter-regional friendship, but also international understanding.

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Methods

The success of any scheme of study will depend on the methods used and the attitude, resourcefulness and skill of the teacher. To help the pupils to achieve the highest degree of individual development and to foster the right attitude to their environment and heritage, we use the following methods.

The course is not confined to a single textbook. Children are encouraged to gather information in several ways. They refer to simple books and magazines. They also observe and give reports. Discussions and mock parliaments are arranged to develop clear expression. Many assignments are carried out by groups of children working together, e.g., making models, scrap-books and producing plays. Whenever possible, direct experience is provided by visits to farm and factory and to places of historical interest. Besides, in each class there is a period allotted to the discussion of current events, so that the young citizens are trained to follow local and world events intelligently. A particular group is asked to follow up a special topic. For example, one group might collect all the information about the floods in the country, while another might follow the events in Kerala, and a third the relations between India and China. Children should be able to distinguish between statement of fact and statement of opinion.

Some Difficulties

In present-day school conditions experiments in any subject are far from easy. The same applies to social studies. Teaching from a single textbook is easy: referring to several books is often difficult. It entails more preparation, extra work for the teacher, who is already overburdened. Our teachers are not all specialists; one teacher perhaps teaches a number of subjects. The hours of work are long. So even the enthusiastic and willing teacher finds it a strain. The large number of pupils in a single class adds to the difficulty, particularly in arranging practical work and excursions. Besides, we in this country have yet to learn how to evaluate, to judge a child's achievement and calibre, without assigning marks. As regards difficulties for children, let me mention the lack of suitable reference books, magazines and children's newspapers in the mother-tongue.

One test of good education is how well it prepares pupils to be well adjusted to society. This is only an attempt to build a better society of tomorrow. Evaluation in the usual manner is difficult, particularly where attitudes are concerned. Hence the results cannot be tabulated here. But we believe that the essence of teaching is experimenting, exploring, change, and growth.

S. T. ZACHARIAH

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Teaching Children to be Good Citizens

THE J. B. VACHHA HIGH SCHOOL FOR GIRLS, Bombay, undertook this experiment in ' Training in Citizenship ' in 1956. It is intended to teach citizenship to children through the different subjects of the curriculum with civics as the core subject.

Reasons for Selection

We live in an era of change, and our country has entered a fresh phase of development. New India needs a new type of citizen, with wider knowledge, a capacity for clear thinking, and a sense of social service and responsibility. On the homes and schools of today falls the duty of training the young, if they are to fulfil these aims as future citizens.

Good citizens are not born. All human beings have a capacity for citizenship, but mere capacity is not enough. It needs developing and training. This cannot be achieved by merely including the subject of civics in the curriculum. Citizenship is more caught than taught from the general tone and atmosphere of the school.

One of the main factors to influence our choice is that quite a number of pupils who seek admission to this school come from families with a low standard of education. Hence they need training and guidance in a more intensive form.

Our objectives are:

1. To impart such knowledge to the child as will be of practical use to him in his daily life.

2. To develop those qualities of the body and mind which will enable him to discharge his duties effectively as a useful and responsible citizen.

HOW CITIZENSHIP IS TAUGHT THROUGH THE DIFFERENT SUBJECTS OF THE CURRICULUM

GEOGRAPHY

Geography is the science that deals with the earth as the home of man. Regarded as such, geography gives the pupils a conception of the world and its diverse environments and peoples, for geographical factors control man's action and destiny. This arouses in the pupils a feeling of sympathy towards other people and their problems and they begin to understand why they act as they do. Again, man's struggle against the forces of nature, his triumphs and defeats, give the pupils an idea of the achievements and limitations of human skill. Geography teaches them that the best way to pay their debt to the past is to make their contribution to the present and to the

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future by learning all they can about their city, state, country, neighbours and the world in general.

The geography syllabus has been so graded that besides giving the pupil an intimate knowledge of his own region, it acquaints him at all stages with the natural wealth and resources of India and her neighbours. It also informs him about India's position in the world market in natural resources, industries, and mineral and economic wealth. This comparative study makes the children proud of their natural heritage. A detailed study of world exports and imports drives home the idea of interdependence. This knowledge of geography is necessary to sound citizenship, for without it we cannot cultivate an intelligent outlook upon the world.

The study of geography is approached through many avenues:

1. Learning by doing, or the project method: Every year the pupils work one project in detail. For example, one year they worked on a 'Project on China'.

2. Personal and direct observation of natural phenomena: The following practical work has been done:

(*i*) seasons demonstrated in a darkened room;
(*ii*) charting of the sun's shadows through classroom windows;
(*iii*) recording temperature and rainfall;
(*iv*) evaporation and condensation;
(*v*) sand and water experiment to show how the land is heated and cooled.

3. Visual aids: pictures, charts, scrap albums, models, films, epidiascope.

These visual aids make revision lessons very interesting. For instance, pictures are collected on a particular region, say, 'The Temperate Grasslands'. Each child is given a picture and asked to study it in the light of the lesson in the textbook and reference books. The children have prepared many albums and frames on geographical subjects during the cultural activity periods. These pictures adorn the classrooms and corridors.

4. Graphic description: This is resorted to by the teacher at all stages of teaching in the lower classes, and in the higher classes the pupils themselves supplement it with the aid of travel books, story books and reference books. From Std. VIII onwards reference books are given freely to all pupils.

To check on the children's reading, a child is required either to give an oral review of the book or to read out some interesting facts, descriptions or anecdotes he may have come across. The reviews are compiled in the form of an album entitled 'Books We Have Read'.

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This encourages independent reading and self-study. The class which worked on the project on China has read about thirty books on the subject.

5. Cultural activity programmes: Items bearing on geographical topics are chosen for demonstration or staging, such as:

(*i*) demonstrations of national modes of greeting;
(*ii*) parade of national costumes, flags, emblems, dances;
(*iii*) celebration of national festivals;
(*iv*) exhibition of national industries;
(*v*) pen friendships and the exchange of gifts through the Junior Red Cross;
(*vi*) talks on the Geographical Year and 'Our National Heritage'.

All these activities inculcate respect for other people's ways of life and promote better understanding.

HISTORY

We teach history to our pupils so that the knowledge they gain will be useful to them in adult life. With the number of newspapers and other reading matter that is now at the disposal of the public, more and more young people are taking an interest in world affairs and current events. This interest can be exploited and teaching made more significant without lapsing into political controversies. Here are some concrete instances:

While teaching about the caste system in the ancient Hindu period, and in the process of narrating its growth, we emphasize how it has created the great problem of untouchability, the attempts of Mahatma Gandhi to eradicate this evil, and how the government today is withholding financial assistance from those villages which still have untouchables.

Absence of national unity in India has made the country an easy prey to foreign invasion. This topic can lead to a discussion of the late Sardar Vallabhbhai Patel's policy of the merger of Indian states into a united India. Another effective method in history teaching is making comparisons between contemporary events, movements, and personages.

The Reformation in India compared with the Reformation movement in Europe will make the pupils appreciate better the freedom of worship they enjoy today. The non-violent policy of Mahatma Gandhi can be contrasted with the executions of the French Revolution. A study of Jawaharlal Nehru's policy of Panchshila can contribute to making pupils better citizens. This is history's contribution towards citizenship.

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Some of the teaching methods used, as mentioned above, in the teaching of geography, namely the use of reference books, periodicals and magazines can also be used in history. Visual aids in the shape of charts, scrap albums, friezes, visits to historical sites, films and collections for the history museum can also be effectively used.

More than geography, history is correlated with language work in the form of:

1. Essay-writing on historical themes, making them more meaningful by associating them with appropriate occasions.

On Independence Day and Republic Day the pupils write essays on 'India's Achievements in Ten Years of Freedom', and 'The Events of Today which will go down in the History of our Country'.

On the occasion of Pandit Nehru's and Vinoba Bhave's birthdays the pupils wrote on 'An Hour with my Favourite Hero in History', and 'The Living Personality I Admire the Most'.

2. Children are encouraged to read, act and stage scenes from historical novels, plays and poems.

3. They are also encouraged to compose riddles, puzzles, historical quizzes, and talks on historical themes such as 'The First and Second Five Year Plans', 'Our Glorious Heritage' and 'The Heroes of our Freedom'.

CIVICS

A good citizen must be well-informed and well-read. He must be aware of his civic rights, duties and responsibilities. With this object in view the pupils are acquainted with our system of government, and are introduced to the U.N.O., its agencies and activities. Discussions are held on current news, and world affairs are reviewed, with special stress on the consequences of student indiscipline. Last year the children maintained an album of outstanding events. An outline map of the world is put up in a central place in the school where the children pin up daily news reports.

Civics can be taught through cultural activity programmes:

1. National and international events are celebrated by talks bearing on the occasions.

2. Talks are given at the school assemblies by pupils, teachers, or visitors. Our citizenship talks so far have been on (*i*) the sweepers' strikes and the role of every good citizen on such an occasion; (*ii*) the children of the world; (*iii*) human rights' day; (*iv*) brotherhood week; (*v*) national savings certificates; (*vi*) the lives of great religious leaders on the occasion of their anniversaries; (*vii*) the history and activities of the Bombay Municipal Corporation; (*viii*) banking and civic life.

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3. Civic excursions form an important feature in the study of civics. Pupils pay visits to hospitals, chawls, homes for the blind, and thus are brought face to face with suffering. They also visit the High Court, Legislative Assembly sessions, and attend Municipal Corporation meetings.

LANGUAGE

Language as the medium of social intercourse is the most powerful instrument in training for citizenship. A good citizen must have the ability to speak well, to write legibly, intelligently and fluently, and to read with speed and understanding. We are trying to achieve this aim through language projects with the following objects in view:

1. Fostering originality in composition.
2. Doing grammar work through composition. The class magazine project, worked upon during the cultural activity periods, encourages better expression.

SCIENCE

The children will one day be custodians of our natural resources, so it is the responsibility of the teacher to help them to love and appreciate nature, and to make them aware of their duty to preserve trees, birds, plant and animal life. Through talks and nature rambles, films and illustrated magazines, children become aware of and interested in their natural surroundings. They are encouraged to make sketches and paintings of the things they observe in the course of their rambles and to develop their ideas in charts, albums and scrapbooks, thus correlating nature with art. They tend garden plants and trees and record their observations during the various stages of their growth. The pupils have made a collection of nature myths, poems, stories and cuttings from news magazines, thus correlating nature with literature. They have built a museum of nature collections, have sketched and painted shells for the museum, and have even prepared little articles of shells, thus correlating science with craftwork. In biology they study the life histories of insects by breeding mosquitoes and silk-worms. Last year the school was successful in breeding two types of fish in the school aquarium. A talk on ' Preservation of Wild Life', followed by poems and stories of animals, helps to bring home to the children the importance of ' Wild Life Day '. In physics and chemistry, experiments are related to everyday life wherever possible.

Except for a handful out of 935 pupils, the children do not destroy or steal garden products either from the school or from public gardens. They have also developed the habit of reading to collect

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information, and they bring cuttings for the school news-board, nature albums or their own scrapbooks. Nature specimens are also collected by individuals for the school museum.

Lives of famous scientists are discussed during the cultural activity periods and this inspires reverence for the benefactors of mankind.

MATHEMATICS

As this is a girls' school we train our pupils to be good and thrifty housewives. A good housewife must be able to run her home thriftily and economically, and to safeguard herself against the tricks of tradesmen. A great deal of stress is laid on arithmetic in the household. Shopping is the main feature of household arithmetic and children are taught the elements of shopping through the school shop, where they actually buy, sell, weigh, measure, prepare bills and give change. They are trained in handling annas and naye paise. They also learn the use of stock-sheets, price-lists, vouchers and advertisements in connexion with a shop. So the pupils learn in a practical way the compound rules involving money, weight, time, and measure, for arithmetic is taught to be applied. During the Guides' *Khari Kamai* week, the Girl Guides run a canteen where they sell foodstuffs to the whole school, maintain accounts and calculate profit and loss. During the cookery period they learn about the units of measurement used in everyday life. They calculate the expenditure to be incurred for a class excursion, or for the cost of making a garment. All this affords plenty of scope for mathematical skill in household accounts. Gradually the children are led to the household budget and are taught how to budget the expenditure within a given income and how the income is to be used to the advantage of the family as a whole.

In Std. VII, parents willingly co-operated in providing their children with pocket-money ranging from Re 1 to Rs 5. Pupils were asked to maintain an account of their expenses, and this was checked by the teacher from month to month. The account books make interesting reading for they reveal the tastes, aptitudes and interests of the pupils. Honesty in all money undertakings is stressed repeatedly. Through the household budget, children are led on to the municipal, state, and central government budgets. Pictorial charts of the main items of expenditure and income of the state budget are put up, and incidentally the children are given information about the history of taxation, thus connecting arithmetic with history. The children are told about the different kinds of taxation and about the use the government makes of taxes. They are reminded of their civic duties and taught not to evade taxes. Thus mathematics is correlated with civics in the training for citizenship.

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While discussing the household budget, it is brought home to the children that a good citizen must invest wisely and provide for his dependents. This leads to the study of simple interest, post-office savings accounts, stocks and shares, and national savings certificates. While dealing with the topic of banking, children are taught how to write different types of cheques. The language teacher teaches them how to write letters to the bank to open and close accounts, thus correlating arithmetic with language work. The children hear a talk on insurance by an insurance agent, and in the light of the talk they hold a symposium on ' Different Kinds of Insurance '.

Topics such as ratio and percentages are taught through classroom situations such as attendance, age, examination results, height, weight, and school fees. Averages are taught after working out examples in such familiar matters as temperature, rainfall, and the speed of present-day vehicles of transport.

In algebra and geometry, charts are prepared to illustrate the use of geometry in everyday life and to teach algebraical identity through geometrical illustration.

Related to life and life situations, mathematics becomes a phase of living, and children acquire skills, speed and accuracy which prove useful in common transactions.

ARTS AND CRAFTS

Children are taught to bring beauty to the home and surroundings by experimenting with decoration under the guidance of the art and craft teacher. A project was worked out on ' Art Comes to School '.

As regards craft, children are taught to explore the realms of waste materials such as old newspapers, shells, scrap wool, old sari borders, disused gramophone records, disused electric bulbs, and boxes. This has resulted in a project on ' Beautifying the Classroom '.

Practical Citizenship

Civics should not be confined to the printed page when the laboratory of life lies close at hand. Through projects such as ' Training in Leadership ' and ' Library Service ', children are encouraged to do more than talk. Speech and action must go hand in hand, as knowledge is given to be applied. Details of these projects are available to anyone who is interested.

Another way in which young children are introduced in a practical way to the corporate life of the city is by participation in social activity programmes such as ' The Brotherhood Week ', ' National Savings Certificate Week ', and ' Courtesy Week '. The children participate in international activities organized by the Junior Red

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Cross League, such as art and handicraft competitions, pen friendships, exchange of albums, paintings and gifts with children of other countries, and contributions to charities for victims of famines and earthquakes.

Through civic excursions they make contacts with the world outside the home and classroom walls.

HOW THE PARENT CAN HELP

Every effort is made to make education real and purposeful in terms of the pupils' interests and needs through supplementing required reading with reference books, periodicals, magazines, films, excursions, pictures, models, experiments and demonstrations, talks, and activity programmes, all of which enrich the work in the classroom. The school which throughout the year encourages pupils to express themselves freely, and which provides a wide range of activities, ensures the continuance of such profitable activities during the vacation period. The following suggestions are offered to parents in our *Pupil's Guide Book*:

Trips. There are always interesting places for children to visit, such as museums, zoos, aquaria, airports, parks, observatories, factories, libraries, and historical sites and institutions. Children must be encouraged to maintain records of what they have seen in the form of diaries or scrap albums, or to give an account of their trips in oral and written composition.

Collections. This is an excellent vacation experience. Children can be encouraged to collect stamps, pictures, shells, wild flowers, seeds, leaves, nests, feathers, stones, good thoughts, jokes, riddles, anecdotes, poems, books, and general knowledge questions.

Games. The playing of interesting outdoor and indoor games can be an excellent means of spending leisure hours.

Nature lore. Encourage children to be acquainted with nature. Observation and study of birds and other living creatures is always a fascinating experience for children. Let them make nature scrapbooks, albums, and sketches of what they observe, and of notes and cuttings they come across in the course of their reading.

Reading. Encourage children to read and collect good books, newspapers, periodicals and magazines and to make a scrapbook of interesting passages and news events.

Radio. Help children to select and listen to useful radio programmes.

Art and Craft. Teach children to make sketches and try their hand at painting, sewing, embroidery and other crafts they may have learnt in school, to decorate their homes.

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Letter-writing. Encourage children to write letters to school friends and pen friends.

In the light of the above suggestions the following questionnaire was issued to the pupils when they returned from their vacations:

Trips. Do you go out on excursions from home? Mention the number of excursions you have been on against each of these headings:

(*i*) nature rambles (gardens, parks, zoos, museums, aquaria);
(*ii*) historical sites either in Bombay or outside Bombay (ports, statues, palaces, temples, tombs, monuments);
(*iii*) geography (factories, mills, sea-shore, lakes, dams, hill-tops, observatories);
(*iv*) mathematics (banks, mint, post-office, stock exchange, market;)
(*v*) the movies (comedy, adventure, musical, historical).

Collections. Do you collect any of the following ?

stamps	general knowledge questions
coins	snapshots
tickets	pen friends
pictures	autographs
books	biographies of famous men and women
riddles	craftwork
jokes	charms
poems	greeting cards
quotations	good thoughts

Games. Do you play outdoor and indoor games? Mention your favourite games.

Reading. Do you read newspapers? What is your special interest?

political news	cartoons
stories	weather reports
children's corner	sports news
comics	good thoughts
advertisements	

Do you read books besides those from the school library ?

adventure	novels
romance	classics
fairy tales	books of general knowledge

Mention how many you have read of each kind.

Radio. Do you listen to the radio? Which of the following programmes interest you ?

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news items	quiz programmes
children's programmes	sports
school broadcasts	skits
	songs

Art and Craft. Do you draw or paint pictures ? Do you sew, embroider or prepare articles ? Do you utilize waste materials, and how ? Do you try out dishes which you learnt to cook at school ? Do you wash garments at home ? Do you decorate your homes ? Mention against each what articles you have prepared.

Self-expression. Do you study music or dancing ?

Have you appeared for drawing, Hindi, elocution, or music examinations ?

Have you joined any of these activities ?

Girl Guides
first aid and home nursing courses
moral instruction classes
a hockey team

It is easy for children to answer this questionnaire, but a check-up is necessary. This is how we do it.

Trips. The children are asked:

(*i*) to describe orally or in the form of written composition any trip, tour or excursion;

(*ii*) to bring snaps, postcard albums or curios either for display or for the school museum;

(*iii*) to make sketches of what they may have seen or observed during their outings.

Collections. We have occasionally a hobby day when the children are asked to display their collections. This year we had one such day and assigned marks classwise.

Reading newspapers. We play games to find out how rapidly players can find specified information regarding sports, domestic news, political news and book reviews. Children must be quick to note the pages where these items occur.

We let the children keep a diary of outstanding events, of prominent men and places that have appeared in the news, with references made to the world map for news centres.

We show pictures of prominent people. The pupils must be able to guess their names and say why they are famous. The children are encouraged to bring news cuttings and read them aloud to the class. The teacher gets an idea as to what type of news interests each pupil.

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Reading of books. The children are asked to recommend to the school librarian the books they have read and found interesting.

Radio. Essay writing on favourite radio programmes.

Games. Class leaders occupy the pupils in the absence of teachers by engaging them in either outdoor games or indoor language games (jokes, puzzles, spelling, word-building, sketching games on the blackboard, or story-telling, singing, recitation).

Art and craft. After the vacation children are asked to display their craftwork. Prizes are awarded to the best three, classwise. The winning pieces are kept in the school show-case for some time.

Evaluation of Interests

The strength of the secondary school (Stds. V-XI) is 325 pupils. The following results may prove interesting.

Radio: 204 children have radios; 171 are interested in music; 123 listen to skits; 76 listen to sports news; 70 listen to news and talks; 50 listen to children's programmes; 29 listen to quiz programmes.

Nature rambles: 102 children have been on nature rambles to such places as lakes near Bombay, public parks, zoos, beaches, hill-stations such as Khandala, Lonavla, Mahableshwar, Matheran, and one of them has even done some climbing in the Himalayas.

History and geography: 106 children have been to places of historical or geographical interest such as:

(*i*) caves in the vicinity of Bombay—Ajanta, Ellora, Elephanta, Kanheri Caves, Nasik Caves, and Karla Caves at Khandala;
(*ii*) Forts—Pratapghar, Delhi Fort;
(*iii*) Palaces—Baroda, Mysore, Jaipur, Hyderabad, Indore;
(*iv*) Temples and mosques—in Delhi, Darjeeling, Agra and Amritsar;
(*v*) Monuments—Taj Mahal, Kutub Minar, tomb of Tipu Sultan;
(*vi*) Historical sites in Calcutta, Delhi, Agra, Jaipur, Mysore, Hyderabad;
(*vii*) Places of geographical interest: factories (sweet drinks, ice, sugar, match-box, tea, glass, confectionery, cement, soap, pharmaceuticals, textiles, sugarcane, perfume, motor-car, Cutlery, watch), oil refineries, cotton mills, rivers, stone quarries.

Science: 40 children have visited places of scientific interest, such as the Haffkine Institute, the Tata Memorial Hospital, the Science Department of the Victoria Jubilee Technical Institute, reservoirs, quarries, the telephone exchange, the water-works, Aarey Milk Colony, and All India Radio.

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Almost all the children have travelled out of Bombay. Three children have been abroad: to Italy, London, and the Middle East.

Collections: about 250 children have collections, as follows: pictures, 157; charms, 146; story books, 105; snapshots, 105; greeting cards, 100; stamps, 95; nature collections, 92; biographies of famous people, 83; autographs, 75; trinkets, 63; coins, 50; riddles, 49; tickets, 47; beads, 44; craft, 37; jokes, 32; good thoughts, 31; quotations, 21; pen friends, 21.

Reading daily newspapers: 235 children receive newspapers. These figures give an indication of the pupils' interests: stories, 204; comics, 162; jokes and puzzles, 120; children's corner, 92; advertisements, 92; weather reports, 78; political and current news, 45; sports news, 38; good thoughts, 31.

Reading books: about 100 children collect books at home.

Films: all the children go to the movies. The most popular are musical films, but 50 are interested in educational films.

Evaluation of Skills

Skills were evaluated from the following activities:

Cultural activities: 70 children are good at dancing; 50 children are good in speech activities such as acting, dramatization, reciting, and story-telling; 30 children are good at singing; 25 children are good at costume-making.

Art work: 120 children are interested in decorating the classroom; 30 children are interested in illustrating the class magazine, making scrap albums and doing the school plays. About half-a-dozen children are highly talented.

Craft work: 80 helped in preparing these articles: chalk boxes out of old greeting cards; duster holders from empty tins; flower bowls from greeting cards; wall brackets from gramophone records; window decorations from disused electric bulbs; broom stands from gunny cloth and cardboard; calendars done in embroidery.

About 20 helped in doing magazine layouts.

Research work: 120 children used reference material (newspapers, magazines, periodicals and reference books) to collect material for class magazines and scrap albums.

Creative work: 65 children were found good at creative writing (two girls are very good at writing poetry, one in Hindi and the other in English).

Neat handwriting: 105 girls have very neat handwriting and are helpful in copying out articles in the class magazines, albums and charts.

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Collecting pictures: about 120 children take a great interest in collecting relevant pictures for all subjects of the curriculum.

Library service: 10 girls help with library work. They assist the librarian in the distribution of books and in keeping records of their respective class libraries.

In conclusion I would like to mention that there is increasing co-ordination of home and school work, which is of considerable help to the teachers involved in this experiment.

P. NAGARWALLA

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Book Reviews

T. H. GILLESPIE: *Zoo-Man Talks* (Oliver & Boyd, 1959), Crown 8vo, pp. 120, 6*s*.

The 'Zoo-man' is T. H. Gillespie, who was Director-Secretary of the Edinburgh Zoo for forty-seven years. The 'talks' are the nature talks he gave for the Scottish B.B.C. Children's Hour over a period of thirty years. The publishers have wisely realized that these talks, to which children listened with such fascination, would also be good fun to read. And by printing them in easy-to-read type, accompanied by lively pictures, they have enabled many children who did not have the advantage of hearing Mr Gillespie over the air to enjoy the benefits of his long and intimate association with all kinds of animals.

The talks that Mr Gillespie addresses to his audience prove once more that it is only the very knowledgeable and expert who can talk simply enough for children. He does not try to give a list of facts which he expects the children to remember. He rambles casually among his experiences, among discoveries and facts about animals, and among the laws of nature which make the 'whole world kin'. His talks have titles such as 'Some Wonderful Journeys' and 'How Animals Help Each Other'. He interprets these titles in the widest sense. Under the first title, for instance, he talks about the migratory journeys of birds and fishes; he also tells of remarkable journeys made by domestic animals such as cats and dogs in search of their masters. The effect of these talks on the young mind is to create an interest in all animal life, rather than to store it with facts.

There are some charming illustrations by Len Fullerton.

This book would, I feel, reward close study by all those who are asked to give talks for the School Broadcasts programmes over A.I.R. It is axiomatic that unless the speaker himself is deeply interested in his subject he is not likely to create an interest in his listeners. On the other hand a careful organization of factual material is not the best way of rousing enthusiasm. The short intimate stories, the little jokes, the humorous generalizations, are easier to listen to and remember than a carefully documented report. But to complete the circle, the only people who can afford to take the liberty of making little jokes about a specialized subject are those who know it inside out.

* * *

A. VERSTRAETEN AND N. A. WATTS: *Science in Everyday Life* (Orient Longmans, 1959), Crown 8vo. Bk. I, pp. xii + 250; Bk. II, x + 206, Rs 3.50 each.

Of the series of three, only the first two books are under review, the third volume being in the press.

These books have been written mainly to cover the syllabus in general science adopted by the West Bengal Board of Secondary Education for higher secondary schools. The books are divided into five parts as the course to be covered is from Std. VI to X.

One of the main objectives in introducing general science into the school curriculum is to make children aware of how the progress of science has contributed to the welfare and comfort of man. It is difficult to find a general science textbook that serves this objective, and the books under review only partially fulfil these aims. However, this may be because they have been designed to fit a specific syllabus drawn up for different standards in a particular state.

The books deal with topics on a compartmental basis. Many of these topics are treated in a fairly interesting manner. 'The World in Space', 'Air and You', 'Two Household Pests' in Book I, and 'Sinking and Floating' and 'What Magnets Can Do' in Book II are particularly informative. The treatment is comprehensive and enables the pupil to get a good grasp of the subject-matter.

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On the other hand it is difficult to understand why different aspects of the effects of heat and light, which have so much importance in our daily lives, have not been mentioned. One hopes they will be included in Book III.

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Better presentation and more attractive illustrations could have improved these books for the use of school children.

* * *

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Editor: MARGARET BENJAMIN

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The Evaluation of Learning

THE PROBLEM OF THE EVALUATION OF LEARNING, or in other words the problem of examinations, has always been a controversial one. The traditional essay type of examination has been found highly unsatisfactory, and its defects are well known. Scientific investigations have proved that these examinations are frustrating and extremely unreliable for the evaluation of pupils' abilities. To quote the words of an expert: 'The failure to restrict Essay testing to the purposes for which it is best suited has resulted in lost efficiency, time and effort and also in lower validity of evaluation.'

It was for this reason that the Alexandra Girls' English Institution,[1] Bombay, undertook an experiment in examinations and has been working on it since 1958. It is hoped that with a couple of years of further experimentation this school will not only be able to change its whole system of examination, but will also be able to reorientate teaching methods and learning experiences in the light of its findings.

Aims

The aims of the experiment are to evolve a system of examination which will examine a wider field of knowledge, which will examine in a more intelligent way, encourage correct methods of study on the part of the pupil and eliminate cramming, reduce the subjective element in the marking of the teacher to a minimum, thus making it more foolproof, and lessen the drudgery of teachers' corrections.

These examinations will also be a better evaluation of pupils' achievements, of their acquisition and retention of knowledge.

Procedure and Material

In order to achieve these aims it was decided to make use of the New-Type examinations and compare them with the results of the

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essay type. The New-Type examinations are of two kinds: (1) the objective one-word tests, and (2) the short-answer one or two sentence tests.

The experiment aimed at finding the difference in the achievement of pupils in the objective one-word type of examination, and in the short-answer tests. It also compared the achievement of pupils in the objective tests and short-answer tests with their achievements in the essay type of examination.

It must be made quite clear that the pupils in this school have tests in each subject roughly once a term, i.e. two tests a year in each subject, and two examinations—one at the end of the first term and one at the end of the academic year. Subject tests are held once a week.

The experiment was carried a step further. The subject teachers were made to rank the pupils in the experimental classes according to their estimation. These rankings were given in a sealed envelope to the principal some time in the middle of each term and were done without consulting the marks obtained by the pupils in their tests or examinations. The ranks of the pupils as obtained in their tests and examinations were then compared with the teachers' rankings. It was not easy for the teacher to rank a class of about 35 pupils according to his estimation. A five-point scale was utilized: A+, A, B+, B, and C. An A+ indicated excellent, and C below average. The class was first divided into these groups and the ranks were then given to individual pupils.

The rankings were done not only for the experimental classes which were given the New-Type examinations but also for the 'control class' which was getting the usual essay type of tests and examinations.

The classes chosen in 1958-9, the first year of the experiment, were Stds. VIIA and B. Each of these classes was given the objective one-word test in one term and the short-answer test in the second term. The results and achievements of pupils in both types were then compared. In the second year 1959-60 these two classes were in Std. VIII. These same pupils are being given the traditional essay type of examination and their achievements in these will be compared with their achievements in the New-Type tests given to them the previous year.

This experiment is being repeated in 1959-60. Std. VII is being given the objective one-word type of test in the first term and the essay type in the second term. The results will be compared. In the next academic year, 1960-1, this same class will be given the short-answer tests in the first term and the essay type in the second term, and these results will be compared.

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The New-Type Examinations

It will not be possible to give anything but a short account of the New-Type examinations and tests in this article. A few sample papers given in the appendix will help to clarify this description and will give concrete examples of how these tests are to be constructed and how they can be made foolproof. Experiments and research have shown that the traditional essay type of examination is incapable of appraising accurately either the pupils' knowledge or their mental operations. We feel that the New-Type tests are a definite improvement, less of a strain on the pupils, and a more effective method of evaluation.

The main difference between the essay type of examination and the New-Type is that in the latter there are a larger number of questions set, to be done in a shorter time.

Objective One-Word Tests

In the one-word type, the number of questions set may be 75 to 100 for a paper of about one hour. The most important factor in this type of test is that the answer to each question must be a definite word, letter, or a number, and there should be no ambiguity about the answer. One mark is given for each answer. This makes the marking and evaluation mathematically accurate. In a test like this, if carefully constructed, the scoring cannot vary even if it is corrected by a number of examiners. There is of course a certain element of guess-work on the part of the pupils, but this can be reduced to a minimum. There are also greater chances of copying, but this problem does not arise in this school where classes do not normally exceed thirty-five pupils, where supervision is satisfactory, and where copying is considered a serious misdemeanour.

The New-Type tests which we have used fall into five categories. They have proved suitable for testing not only knowledge but testing and measuring comprehension, reasoning, selection, memorization, inference and discrimination. All five categories do not achieve all these things, but if the question papers in the appendix are studied carefully, they will illustrate what each type tests.

The five principal types of the tests are as follows:

The Multiple Choice Test: This consists of two parts, the 'stem' which is the main problem, and the answer. The stem must be clearly, simply and precisely worded and must be well within the pupils' understanding. It must contain only one problem and must take the form of a question or an incomplete statement. The answer required should be only one of the number of alternatives offered. Usually five choices are recommended to reduce the

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chance of guess-work, though three may also be utilized. These alternatives are known as 'distractors'. Selecting distractors can be very interesting to an examiner. They should be plausible, not too lengthy; they should all be more or less the same length; they can be made more effective by using the language of the textbook and they can often be the incorrect answers given to a question in class by the pupils during a routine lessen. See question papers in the appendix.

The Matching Test: This consists of two columns, one on the left hand side called the ' stimulus ' column and the other on the right hand called the ' response ' column. Items in both these columns should be homogeneous. Each item in the stimulus column is to be paired with a word or phrase in the response column. This matching test is useful for several kinds of questions—laws and their illustrations, rules and examples, tools and their uses, events and places or persons and dates, symbols with their names, parts with units, causes with effects, terms and their definitions, principles with their applications, means with ends, experiments with results.

True-False Test Items: This is sometimes known as the ' alternative response ' test item. It consists of a statement of a declaratory and categorical nature and the pupil is required to state if it is right or wrong. It is extremely important that there should be no ambiguity in this statement and it should not be of a too general, involved, or trivial nature. It should contain one single idea and may have a qualifying clause. This type may take more complex forms if administered to the senior classes, or it may even be modified. In this type the pupil is asked not only to mark the items that are true, but to modify the false or incorrect items by identifying the word that makes the statement false and writing another word that would make it true. These true-false items can take several other forms.

The Completion Test: This consists of a statement in which an important word or words are omitted and the pupils are required to fill in the blank, or a statement is made and it has to be completed.

This again can take more complicated forms where pupils are required to consider two blanks at the same time and the suggested choices are also in pairs.

The Analogy Test: This usually takes the form of ' A is to B as C is to?' The pupil has to first recognize and understand the relationship between A and B, and then recognize the word or phrase that has the same relationship with C. The nature of the relationship between C and the answer should be the same as that between A and B.

It is useful for testing pupils' recognition of relationships between words, ideas, theories, facts, and principles. This is a slightly more

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difficult type of test item and should be utilized only for the senior classes.

The manner in which the pupils are to answer and deal with each of the five categories of test items mentioned above is obvious from the question papers in the appendix.

The Short-Answer Tests

This type of examination involves a number of questions, about 25-30, which can be answered in about half an hour, as against the three or four which have to be answered in the same time in the essay type. These questions will involve answers of one, two or three sentences only. Thus it is obvious that this type of examination can cover a wider range of knowledge than the essay type. The questions in this type of test should be short, pointed and on specific topics.

The evaluation of this type of test is done by giving one mark for each sentence of the answer. We have restricted our short-answer tests to questions which involve only one-sentence answers.

Evaluation

The tables given below will illustrate how the experiment has worked out and what results and conclusions have been arrived at from the pupils' achievements.

Tabular Results of 1st Term and 2nd Term Tests (New-Type tests)

STDS. VIIA & B

Table I

Subjects	*P (Teachers' Ranks and Pupils' Ranks) Col. I				Mean Scores Col. II				Mean Deviations Col. III			
	One-Word		One-Sentence		One-Word		One-Sentence		One-Word		One-Sentence	
	A	B	A	B	A	B	A	B	A	B	A	B
English General	.55	.71	.68	.79	34.1	40.6	21.6	35.7	3.6	4.6	6.3	5.1
English Text	.64	.88	.82	.86	34.0	38.4	22.5	31.5	5.1	4.6	5.2	5.5
Gujerati	.41	.39	.69	.86	34.8	37.3	23.4	28.2	4.0	4.6	6.6	6.0
Hindi	.58	...	...	.48	41.5	...	...	23.4	3.2	...	...	5.4
Mathematics	.43	.68	.42	.85	37.0	34.0	25.7	20.1	4.4	4.4	3.5	5.9
History	.87	.73	.97	1.00	40.6	38.3	29.1	26.8	5.6	4.4	7.7	6 9
Geography	.61	.40	.88	.65	33.5	39.3	27.7	27.4	5.2	4.8	7.7	7·3
General Science	.70	.61	.72	.82	34.8	41.8	26.5	23.4	5.5	3.6	7.2	7.2

Max. marks 50, Pass 20, i.e. 40 per cent

**P = Coefficient of correlation. .5 is considered to be a good coefficient of correlation.

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Observations and Conclusions

This table shows: (1) A comparison between the teacher's ranking and the ranks obtained by the pupils in their weekly tests. (2) The mean scores (with their mean deviations) of the marks obtained in the objective one-word and the short-answers tests.

Col. I: As will be seen from this column, P is fairly high in most of the subjects. In mathematics there seems to be a great difference between the two divisions in both the objective and short-answers tests. This should not have been the case as the same teacher taught both divisions. But there may have been other reasons for this difference. In geography also there seems to be a great difference. Here also the same teacher taught both divisions. In English General and general science the difference could be explained by the fact that two different teachers taught the two divisions.

Col. II: The pass percentage is 40, and 20 marks are the passing marks out of 50. It will be seen that the mean scores in the objective one-word tests range from 34 to 41 with mean deviations from 3.2 to 5.6. This is fairly high. In other words the pupils scored fairly high marks in these tests.

In the short-answer type, the mean scores range from 28 to 35 with mean deviations from 3.5 to 7.7. The mean scores in these types of tests are also high, but not as high as in the objective one-word type of test.

In view of the above it was decided to raise the pass percentage of the objective one-word type of test from 40 to 50 per cent and to maintain the 40 per cent for the short-answer tests in the following year.

Tabular Results of Terminal and Final Examinations (New-Type tests)

STDS. VIIA & B

TABLE II

Subjects	*P (Teachers' Ranks and Pupils' Ranks) Col. I				Mean Scores Col. II				Mean Deviations Col. III			
	One-Word		One-Sentence		One-Word		One-Sentence		One-Word		One-Sentence	
	A	B	A	B	A	B	A	B	A	B	A	B
English General and Text	.61	.80	.81	.87	33	31	25.5	29.2	3.6	4.5	5.5	5.4
Gujerati	.76	.55	.78	.62	32.8	32.8	31.8	25.7	5.8	4.9	7.1	5.2
Hindi	.66	.59	.69	.82	40.1	42.1	25.7	26.9	2.8	2.9	5.4	5.70
Mathematics	.61	.61	.68	.40	30.4	34.1	29.9	19.7	6.0	7.6	5.9	6.
History	.20	.70	.76	.72	39.3	29.2	26.9	28.7	4.4	5.2	6.7	7.6
Geography	.67	.31	.57	.64	36.7	27.8	32.3	29.6	4.8	3.8	5.7	5.7
General Science	.61	.37	.78	.53	34.5	38.5	29.4	24.5	3.8	3.1	6.3	4.2

Max. marks 50, Pass 20, i.e. 40 per cent

Observations and Conclusions

Col. I : As will be seen from the two columns the coefficient of correlation is fairly high in most of the subjects.

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Col. II : The mean scores are fairly high in most of the subjects, though there is a great difference again in mathematics between the mean scores of VIIB in the objective one-word and one-sentence.

In Hindi again there is a great difference between the one-word objective and the short-answer in both divisions of this standard.

The mean scores of the short-answer one-sentence tests are lower than the mean scores of the objective one-word.

Col. III : The mean deviation in the short-answer type is higher than the mean deviation in the objective one-word tests, in most cases.

Tabular Results of Tests and Examinations

STDS. VIIA & B

TABLE III

Subjects	*P. Coefficient of correlation between (i) one-word objective type, (ii) short-answer type. Coefficient obtained from pupils' ranks in 1st and 2nd term tests and terminal and final examinations			
	Col. I 1st and 2nd Term Tests		Col. II Terminal and Final Examinations	
	A	B	A	B
English General	.57	.64	.71	.74
English Text	.75	.65		
Gujerati	.39	.35	.81	.58
Hindi	There were no tests in Hindi in the 2nd Term		.56	.67
Mathematics	.09	.61	.61	.37
History	.33	.59	.69	.77
Geography	.38	.04	.69	.52
General Science	.44	.42	.53	.33

Observations and Conclusions

This table shows the coefficient of correlation of ranks obtained by the pupils in (i) the first term and second term weekly tests, (ii) the terminal and final examinations of the classes under experiment.

Col. I : Here again it is seen that the correlation is fairly high in most of the subject except mathematics, history and geography. In mathematics and geography the same teachers taught the subject in both divisions, therefore the results should not have normally gone haywire, though other factors may have contributed to this. In history the reason may have been that two different teachers taught the two divisions.

Col. II : In VIIA, P is fairly high. In Std. VIIB, except for mathematics and general science, P is fairly high. In general science two different teachers taught the two divisions. In mathematics, however, again the same teacher taught the two divisions.

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Tabular Results of Terminal and Final Examinations (Essay Type)

STDS. VIIIA & B

TABLE IV

Subjects	*P. Teachers' Ranking and Pupils' Ranks Col. I				Mean Scores Col. II				Mean Deviations Col. III			
	Terminal Exam.		Final Exam.		Terminal Exam.		Final Exam.		Terminal Exam.		Final Exam.	
	A	B	A	B	A	B	A	B	A	B	A	B
English General	.77	.99	.74	.92	52.7	59.4	47.0	59.4	7.7	10.8	8.6	13.2
English Text	.78	.99	.85	.93	44.8	54.7	48.7	55.2	9.1	17.1	7.9	11.9
Regional Language	.85	.86	.79	.92	41.2	43	42.0	42.3	8.6	7.8	9.8	10.6
Hindi	.85	.79	.90	.77	48.2	52.4	46.4	49.4	12.8	11.2	9.4	10.2
Elementary Mathematics	.47	.75	.21	.72	42	49.3	46.4	46.2	11	15.8	9.8	16.7
General Science	.50	.50	.23	.77	48.6	48.4	56.6	56	8.8	11.7	8.1	10.2

Max. marks 100, Pass 40 per cent

Observations and Conclusions

This table shows the results of Stds. VIIIA and B, which is the control class, in the traditional essay type of examination.

Col. I: A comparison is made between the teachers' ranking and the ranks as obtained by the pupils in the terminal and final examinations. The coefficient of correlation is fairly high in most subjects except general science and mathematics.

Col. II: The mean scores vary between 41 and 59, but when compared with the mean scores in the objective one-word tests in Stds. VIIA and B they are definitely lower (see Table II).

Col. III: The mean deviations vary between 7.7 and 17.1. These are much higher when compared with the mean deviations of the objective and short-answer tests (Table II).

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Tabular Results of 1st and 2nd Term Weekly Tests

STDS. VII (1958-9) & VIII (1959-60)

TABLE V

Subjects	*P. Coefficient of correlation between New-Type tests (Objective & One-Sentence) and Essay-Type Tests			
	Col. I		Col. II	
	First Term		Second Term	
	A	B	A	B
	VIIA & VIIIB One-Word	VIIB & VIIIA One-Sentence	VIIA & VIIIB One-Sentence	VIIB & VIIIA One-Word
English General	.38	.77	.31	.58
English Text	.42	.48	.33	.65
Regional Language	.29	.53	.59	.32
Hindi	.49	.53	No tests	No tests
Elementary Mathematics	.02	.67	0	.51
History	.27	.56	.08	.39
Geography	0	.33	.14	0
General Science	.065	.45	.44	0

Observations and Conclusions

Cols. I A and B : The coefficient of correlation is higher in the one-sentence than in one-word tests.

Col. I A : On the whole the correlation is low (below 5). In three subjects there is no correlation. This may be due partly to the fact that different teachers taught these classes in the 2 years. In two subjects it is very low. This may be again due to a change of teachers. In English Text and General and Hindi the same teachers taught the classes in the two years.

Col. I B : The coefficient of correlation is fairly good in most cases except in geography. In this subject there was a change of teachers in the two years. In science also there was a change of teachers.

Cols. I and II : From the above it is clear that there is a much better correlation in the first term than in the second term. The first term results seem to be fairly steady.

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Tabular Results of Terminal and Final Examinations
STDS. VII (1958–9) & VIII (1959–60)
TABLE VI

Subjects	* P. Coefficient of correlation between New-Type tests (objective and one-sentence) and essay-type tests.			
	Col. I		Col. II	
	First Term—Terminal		Second Term—Final	
	A	B	A	B
	VIIA & VIIIB One-Word and Essay	VIIB & VIIIA One-Sentence and Essay	VIIA & VIIIB One-Sentence and Essay	VIIB & VIIIA One-Word and Essay
English General and English Text	.47	.93	.66	.65
Regional Language	.79	.69	.78	.50
Hindi	.55	.72	.59	.55
Elementary Mathematics	.65	.42	.33	.64
History	.53	.77	.48	.31
Geography	.25	.44	.35	.73
General Science	.43	.66	.34	.13
	Pass % 50			

Observations and Conclusions

Cols. I A and B: The coefficient of correlation is generally higher in the one-sentence than in the one-word type.

Col. I A: The coefficient of correlation is fairly good as compared with Table V, Col. IA. The discrepancy may be due to the fact that the pupils had to become familiar with the New-Type tests. The main reason for higher correlation here seems to be that the pupils usually do better in their final examinations than in the weekly tests. In geography and science the correlation is low. This may be due to the change of teachers.

General Remarks: Comparing both the tables — Tables V and VI— one cannot fail to notice that the one-sentence type of tests have come out best on the whole. The higher correlations in Col. IB in both the tables are evidently due to the fact that the one-sentence type of tests are very similar to the essay-type tests.

It should be borne in mind that there are a great many variables in this experiment all of which could not be controlled. There is a good deal of time-lag in the different tests. The teachers have changed in some cases. The standards compared are different, although the same children are tested in the different standards. Above all, the emotional attitudes of the pupils are quite different in the different tests and examinations: some of these are weekly tests, some are terminal examinations, and some are annual examinations.

Pupils' Reactions

The pupils were entirely new to the objective and short-answer type of tests. The principal had an informal talk with them about these tests and the following reactions were noted:

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In Std. VII A, out of 26 pupils 20 preferred the objective one-word test to the short-answer one-sentence test. As against the traditional essay-type of examination, 20 preferred the objective one-word test to the essay type and all the 26 preferred the short-answer one-sentence type to the essay type. Some of the arguments advanced by the pupils were: The average and below-average pupils felt that it was easier to pass the New-Type examinations, while the better and more intelligent pupils felt that New-Type tests did not give them enough scope to show their abilities.

In Std. VII B, out of 28 pupils 24 were in favour of the objective one-word test and 4 against. In this class the majority preferred the traditional essay type to the short-answer one-sentence test. Their arguments against the short-answer one-sentence type were: (1) They found the paper rather lengthy and they did not have enough time to think. (2) They found it difficult to switch their thoughts quickly from one topic to another in a limited amount of time. (3) They found it difficult to condense their answers into one sentence. (4) They felt they had more opportunities for losing marks in spelling and grammatical mistakes in the short-answer one-sentence test.

We can conclude from the above that both divisions of the experimental class preferred the objective one-word test to the short-answer one-sentence type. In one division the majority preferred the short-answer to the essay type, while in the other division it was just the opposite.

Even the results showed that the pupils scored higher marks in the objective one-word than in the short-answer one-sentence tests.

The teachers felt that the objective one-word tests definitely gave some of the pupils an advantage, and the not-so-bright pupils who would normally have failed in the usual essay type of examination had passed the New-Type test.

Difficulties

In order to have a balanced idea of how far this experiment has succeeded, it would be appropriate to mention the difficulties we have encountered.

The first essential for the success of an experiment of this kind was that the teachers had to be thoroughly conversant with the construction and assessment of New-Type tests. With the exception of a couple of teachers, the staff in this school were entirely new to these techniques. Several meetings and discussions took place. Sample papers had to be given and detailed cyclostyled instructions issued. They had first to try out test cases in order to gauge the time required by pupils to solve the New-Type test papers. Every

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question paper in each of the subjects taken by the experimental classes had to be submitted with answers and assessment to the principal for scrutiny before it was administered to the pupils. These had often to be amended or even re-set at times.

The correction and assessment of the answer books was extremely important. Some of the questions to be taken into consideration were: How far can correction be made foolproof? How much of the subjective element can be eliminated in the correction of these papers, the ultimate aim being to arrive at the same evaluation of the pupils' achievements irrespective of whether teacher A or B corrected the paper? In which subject-papers should marks be cut for spelling and grammatical mistakes? How far was the 'guessing' factor to be taken into consideration when judging the answers?

After the New-Type tests were administered the teachers submitted the question papers with answers to the principal for scrutiny. Assessment was again discussed. The actual working out of statistics was entrusted to experts only.

It will be seen that the biggest hurdle was the training of teachers in new techniques. This was further complicated by the fact that the same set of teachers do not teach the experimental class the following year, so that if the experiment is to be carried out for two or three years, there will always be some teachers who are new to these techniques and who will have to be given the necessary training.

It would be well for teachers' training colleges and extension service departments of training colleges to include this training in New-Type test techniques as a part of the regular curriculum.

The main objection the teachers had to this kind of test was that it does not examine or assess the pupils' ability to write a language or their power of expression. This objection was raised by the language teachers. They felt that if nothing but the New-Type tests were given to the pupils, the standard in languages would deteriorate. This was a genuine objection.

We overcame this difficulty by giving the pupils of the experimental classes a short paper of 25 marks in languages, besides the New-Type test paper, in the terminal and final examinations. This short paper consisted of questions on essays, precis and letter-writing and only those questions that would test the pupils' ability to express their thoughts in writing were asked. This paper was of course composed of only the essay type of questions. We were careful however not to include the marks obtained in this paper for purposes of the experiment and for working out the statistics.

This experiment has proved extremely interesting, but it has involved a considerable amount of extra work for the staff. A few

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of the staff members felt that it was a great ' nuisance ' because the setting of the question papers requires a lot of time and thought, though the correction and assessment is much quicker and easier. Even these staff members are becoming more interested however as they gradually master the techniques of construction and assessment.

Examinations in one form or another will always remain, but research and experimentation alone, over a long period, can evolve a type of examination that will be a satisfactory and foolproof method of evaluating pupils' achievements and the acquisition of knowledge.

MARGARET BENJAMIN

APPENDIX

THE ALEXANDRA GIRLS' ENGLISH INSTITUTION
ANNUAL EXAMINATION

GENERAL SCIENCE

(Specimen of an objective one-word test paper)

Std. VIIB
Time : 1 hour] [Maximum marks : 50

1. Put a circle round the letters of the alphabet indicating the correct answer : (10)

(*i*) Whole-wheat flour is usually more healthful than white flour because it
(*a*) contains more starch (*b*) contains more vitamins
(*c*) is darker in colour (*d*) is digested more easily

(*ii*) People in flooded areas are warned to boil all drinking water. This helps prevent
(*a*) smallpox (*b*) pneumonia (*c*) typhoid (*d*) influenza

(*iii*) Exhaled air compared with inhaled air has in it less
(*a*) carbon dioxide (*b*) water vapour (*c*) nitrogen (*d*) oxygen

(*iv*) Vitamin D is specially helpful in
(*a*) preventing night blindness
(*b*) building strong bones
(*c*) preventing sunburn
(*d*) preventing scurvy

(*v*) Which liquid is always safe for drinking ?
(*a*) creek water (*b*) spring water (*c*) boiled water (*d*) fresh raw milk

(*vi*) Vaccination has greatly decreased the number of cases of
(*a*) smallpox (*b*) cholera (*c*) mumps (*d*) bronchitis

(*vii*) Boiling vegetables for too long destroys valuable
(*a*) salts (*b*) sugar (*c*) cellulose (*d*) vitamins

(*viii*) The gills of fish are used for
(*a*) swimming (*b*) laying eggs (*c*) digesting food
(*d*) taking in oxygen

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(*ix*) It is easier to start a new plant by layering than by cutting because
- (*a*) layering is a quicker method
- (*b*) layering is easily done
- (*c*) connexion between the parent plant and new plant can be kept
- (*d*) layering can be done in any season

(*x*) In artificial methods of ventilation we depend on
- (*a*) diffusion of gases (*b*) winds (*c*) changes due to difference in temperature (*d*) fans and pumps

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2. Complete the following statements by filling in the blanks with appropriate words: (10)
   - (*i*) The most abundant gas present in air is————and its proportion in air is nearly————per cent.
   - (*ii*) ————and————make up respiration.
   - (*iii*) The extra thirteenth month in the world calendar would be called————and would come between————and————
   - (*iv*) In addition to the diaphragm, the movement of the————helps to force air in and out of the lungs.
   - (*v*) ————and————are foods rich in fat.

3. In the space at the right, indicate by a + sign the statement which is true and by a 0 sign the statement that is false. (10)
   - (*i*) If you cannot get oranges, tomatoes are a good substitute.————
   - (*ii*) The Pelton wheel is more efficient than the over-shot wheel.————
   - (*iii*) The year 2000 will be a leap year.————
   - (*iv*) Bombay's water-supply is chlorinated.————
   - (*v*) Friction is vitally useful to us.————
   - (*vi*) Plants purify the air in the day by giving out oxygen.————
   - (*vii*) Scurvy is an air-borne disease.————
   - (*viii*) Wheels in gear are only used for increasing motion.————
   - (*ix*) Water plants have hard tissue to protect them from currents.————
   - (*x*) Astronomers follow the star day.————

4. Match the two columns by putting the correct-letter from column two in the blanks in column one. (10)

Column I	*Column II*
—— 1. Calcium	*A.* Turns to sugar in the body
—— 2. Settling	*B.* Muscular partition separating chest from abdomen
—— 3. Vitamins	*C.* Builds strong bones and teeth
—— 4. Lubricant	*D.* Substance used for growth and repairs
—— 5. Fat	*E.* Substances that help to regulate the body's food
—— 6. Spiracles	*F.* Removing solid materials from water by letting it stand for some time
—— 7. Diaphragm	*G.* Gives more energy
—— 8. Starch	*H.* Substance used to smoothen the working of machines
—— 9. Water vapour	*I.* Breathing holes of insects
——10. Sternum	*J.* Voluntary muscle
	K. Water present in air
	L. Plants breathe through these
	M. Breathing pores on leaves
	N. Ribs are attached to it

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5. (*i*) Label the respiratory organs in the diagram given (7)
   (*ii*) Label the parts of the diagram (3)

(Diagrams were given here)

English Text and General

(Specimen of a short-answer one-sentence test paper)

Time : 1½ hours] [Maximum marks : 75

Each sentence carries one mark.

1. What was Janet's opinion of Tamlane ?
2. What did Tamlane think of doing on his father's death ?
3. Describe in *three* sentences what Tamlane saw when he was lying on the enchanted spot.
4. How did Tamlane and the fairies reach fairyland ?
5. What made Janet go to the Eildon Tree ?
6. State in *two* sentences what the custom was in fairyland which would endanger Tamlane's life.
7. State in *four* sentences the four different forms into which Tamlane was changed and what Janet did to get him back from the fairies.
8. Why was the Gipsy lady very annoyed with her son ?
9. State in *three* sentences any of the three things which Miss Jessamine told Jackanapes not to do in front of his grandfather.
10. What did the General say when Jackanapes said that he had much money ?
11. What did the General think of the way Jackanapes spent his money ?
12. How did Jack get the money to marry Mary ?
13. How did the dwarf get Jack out of his habit of talking too much ?
14. Why was the tailor unwilling to give his daughter in marriage to Jack ?
15. What was the curse laid upon the king's sons by their godmother ?
16. What was funny about the Hatter's watch ?
17. Why did Alice scold the Hatter for wasting time ?
18. What is the 'Lone Dog' proud to be ?
19. What figure of speech has been used in the verse :
    'And his tail he held bravely, like a banner in a fight.'
20. When do we realize that the dog was very dear to the girl ?
21. Why is the woodcutter a happy man in spite of his poverty ?
22. What does the woodcutter advise the birds ?
23. What does the poem 'A Child's Pet' describe ?
24. Where were the sheep being taken to and why ?
25. State in *two* sentences the two striking pictures in 'Sands of Dee'.
26. How does the poet add to the wonder of the poem 'Sands of Dee' ?
27. What figure of speech has been used in the lines :
    'The cruel crawling foam,
    The cruel hungry foam.'
28. Why has the poet entitled his poem 'Sea Fever' ?
29. Quote the *two* lines which make us feel sorry for the 'Lone Dog'.
30. Quote the *two* lines where the woodcutter tells us about his children.
31. Quote the *two* lines where the poet says that he cannot resist the call of the sea.
32. Who was Dick Turpin and what was the name of his horse ?
33. Where is the Poet's Corner ?
34. What was the Tower of Babel ?

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35. When is a person said to have put the cart before the horse?
36. When is a person said to have locked the stable door after the horse was stolen?
37. When will you say to a person: 'Go and tell that to the marines'?
38. What was the name of Nelson's flagship at Trafalgar?
39. Rewrite the sentences, writing the complete word:
    (*i*) The letter ended, Yours ———y, Kanta.
    (*ii*) My new a———s is 26, Churchgate Reclamation, Bombay 1
    (*iii*) There are thousands of books in the school l———y.
    (*iv*) Warm clothing is n———y in very cold weather.
    (*v*) Farmers use machines to s———e the cream from the milk.
40. Rewrite the sentences giving one word instead of those *underlined* in each of the following:
    (*i*) The *man in charge of the ship* ordered the crew to abandon the ship.
    (*ii*) The *woman in charge of the hospital* inspected the wards every morning.
    (*iii*) The *man in charge of the boys' school* will shortly be retiring.
    (*iv*) We asked the *man in charge of the railway station* for concession tickets.
    (*v*) The *man in charge of the library* allowed Sheila to borrow the book for a month.
41. Analyse the following:
    (*i*) Many children have read the story of Ali Baba.
    (*ii*) The man of wealth should help the poor.
    (*iii*) Some cruel drivers twist the tails of their bullocks.
    (*iv*) The kind Rajah gave his servant a bag of gold.
    (*v*) A few soldiers guarded the entrance of the castle.

    N.B. Here the columns for analyses were given to the children and they merely had to fill in these words in the right columns.
42. Comprehension:

    The old gentleman, who was a respectable-looking person, had taken up a book from the stall outside the bookshop, and there he stood, reading away as hard as if he were in his own study.

    Oliver was scared, as he stood a few paces off, to see the boy plunge his hand into the old man's pocket and pull out a handkerchief; to see him hand it over to his friend; and finally to behold them both running away round the corner at full speed.

    (*i*) Where was the old gentleman standing?
    (*ii*) What was he doing?
    (*iii*) What did Oliver see the boy take from the old gentleman's pocket?
    (*iv*) To whom did the boy hand what he had taken?
    (*v*) What did both boys do then?
43. Make sentences with the similes completed:
    (*i*) As tough as (*ii*) As deaf as a (*iii*) As poor as a (*iv*) As heavy as (*v*) As smooth as

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Character Training at the Doon School

THE WORD 'CHARACTER' is often used in a nebulous way, comprising everything, but meaning nothing specific. By character we may mean a person's eccentricities or peculiarities; we also use the word with reference to a person's mental and moral fibre. It may be desirable to have character in more senses than one, but generally when we speak of the need of character development in the young, we mean the development of mental and moral qualities.

It is the fashion to decry lack of character in others, or sometimes even to make the absurd generalization that a whole nation has no character, as if such a thing were possible! Politicians who are absorbed in nation-building programmes, and parents who are interested in the welfare of their children, realize the urgency of character formation, and they want someone to undertake this job. All schools, with varying degrees of modesty, claim that they are delivering the goods. Some claim to give moral or religious instruction (this may be twice a week, or perhaps more often), and tell the boys always to be truthful and loving, for to be otherwise is a sin. Other schools encourage scouting or participation in the N.C.C. (again twice a week), and thus stress the need of discipline and service to others. Character training is like any other subject on the schedule: as they teach Hindi, Mathematics and Science, so they teach character.

The Focal Point of Education

At the Doon School, character training is the focus of all effort; other training is regarded as secondary. We believe with Herbert Spencer that education has for its object the formation of character. There is provision here for teaching a large variety of academic subjects, skills and games, but lack of proficiency in these is not considered half so significant as a lapse in character.

A boy of character, even if he is not academically gifted, is more respected, by both masters and boys, than a brilliant scholar whose character is undeveloped.

By character we mean some specific qualities such as efficiency, truthfulness, courage (both physical and moral), loyalty, ability to co-operate with others, and a willingness to serve the community to which one belongs. A boy of character must obey and be able to lead others according to exigencies of circumstances. There may be many other mental and moral values which are desirable, but to our mind the ones mentioned above are basic, and we

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believe that these can be developed in students not merely by writing them on tablets, or by repeating them at assembly, but by observance in everyday life.

We take as much trouble over a boy's character training as other schools take over teaching a skill. Today the world's problems can be traced to the wrong emphasis laid in the past on the development of the mind alone. The unjustified belief that a brain well stuffed with ideas contributes to the general well-being of everyone has caused much harm. It may make an individual erudite, and it may enable him to manipulate the mechanical gadgets of modern civilization, but it certainly does not by itself enrich his life.

We believe that the most effective way of training a boy's character is to allow him to grow in a controlled environment, observing certain values. The best environment is one in which he has considerable freedom, but where every transgression is observed by his superiors.

The Doon School is a boarding school which boys join between the ages of eleven and thirteen, and leave generally at eighteen. This is fortunate, because they stay here long enough to be influenced by the values in which we believe.

It is difficult to analyse fully the various factors that contribute to the building of character, for after all character is a complex outcome of many subtle hereditary and environmental influences, only a few of which can be controlled. We may not be able to change an introvert into an extrovert, or one who is sensitive by nature into one who is phlegmatic and tough, but we think that all types of boys can acquire most of the qualities that were mentioned earlier. Our methods are now described.

Efficiency

We expect boys to be punctual for all engagements. They must be fully equipped with whatever is needed, and must complete their work in the time allowed. All those who are unpunctual, or those who turn up without their books, are marked late and a list is submitted to the office. As a boy's school timetable is organized from early morning, when he starts physical training, till after games in the evening, with breaks for breakfast, lunch, rest hour and tea, he has to rush from his boarding house to the field or the school, and in the school from one classroom to another. There is a five-minute break after every lesson to allow boys to go from one department to another, and before it ends the boys are supposed to be in their places. At the beginning of every period a peon goes round to the classrooms with a list, and

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the masters put down the numbers of those who are late. The office then enters these bad marks in a school register, which the headmaster sees from time to time. Every day, during the long break after the third period, he sends for the habitual late-comers, along with other defaulters about whom I shall write later. He admonishes them, and if necessary puts their names on a Yellow Card. Being on a Yellow Card is considered a disgrace and entails the forfeiture of certain privileges, such as not being allowed to go out with visiting relations, or being debarred from the school tuck-shop. Those who are punctual throughout the term, and have not been reported for any lapse in behaviour, sign the honours book for good conduct. Boys who have this privilege thrice are awarded a copy of the complete works of Shakespeare.

In the boarding houses, similar vigilance is kept on punctuality in turning up for meals, games, or preparatory work, and frequent lapses are dealt with by the house prefects, who may give defaulters 'rounds', which means that they must run round a playing field a certain number of times before a meal when everyone else is relaxing. Or defaulters may be given a number of 'changes', which means they must return to the house during the school break, change into P.T. clothes, run back to school and report to the prefect on duty outside the headmaster's office. Soon the boys realize that it is more comfortable to be punctual for appointments than to take things easy. When a boy has been through this discipline for five years or more, he is more efficient than he was before.

Truthfulness and Honesty

When a boy lacks truthfulness he is not only living in a world of make-believe, as is the case with the very young, but he is also lacking in courage. A boy may tell a lie or produce a dishonest piece of work to cover his lack of effort or to hide the fact that he is not clever. He may lie because he is afraid he will be ill-treated. It is our experience that honesty grows as a boy gains courage, or when he works harder and improves in his studies. However, when a boy tells a lie or is dishonest he is reported to his housemaster, who sends him to the headmaster. Masters do not overlook dishonesty in anyone, and the headmaster expects all such cases to be reported to him, so that boys may realize that they cannot get away with dishonesty. The names of the boys concerned are put on a Yellow Card, and it is impressed upon them that they must form the habit of absolute honesty. We believe that dishonesty is quite often a matter of habit, and

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this must be replaced by the habit of truthfulness. As repeated reminders can teach a boy to brush his teeth twice a day, so he can be trained to tell the truth. A time comes when he realizes that it is easier to tell the truth, as lying brings many misfortunes.

Courage

We believe that moral courage is connected with physical courage, and that improvement in the latter is highly correlated with the growth of the former. We therefore try to help boys in gaining physical courage through games, exercises, swimming, and mountaineering. We also have organized standard tests in P.T., apparatus work and swimming for different age-groups. When a boy overcomes physical fear, either while practising cricket at the nets, playing football or hockey, swimming, or diving from a 10 metre board, he gains in both self-confidence and moral stature. It is inspiring to watch a boy grow from strength to strength.

Co-operation and Loyalty

A child is selfish by instinct, and has to be taught to subordinate his own interests to the common interest. He must be taught to aim at goals beyond his personal success. Boys learn to do this through inter-house games. The school is divided into four houses, each consisting of ninety-five boys. The members of a house live together as a unit, have meals together, and compete with one another in most games. Boys who are selected by the house captains submit themselves to much vigorous training, so that they may be able to give of their best for the group to which they belong. Also, they learn to identify themselves with a unit and develop loyalties without which life is meaningless.

Spirit of Adventure and Initiative

Without a spirit of inquiry and of adventure a man is timid and dull. We are lucky to be living in a valley between the Himalayas and the Siwaliks, flanked by the Jamuna on the west and the Ganges on the east. There are mountain peaks all round us challenging the boys to climb them, and there are long treks through hills and forests. Every term we have a five-day break when the boys are allowed to go out into the valley and to the hills in parties, either by themselves if they are seniors, or accompanied by a master if they are juniors. On such occasions boys have adventures and experiences which greatly enrich their lives, and

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which fill them with a self-confidence that is reflected in their work and behaviour in school.

Sense of Responsibility

Boys develop a sense of responsibility by holding positions as school prefects, captains of houses, captains of games, house monitors, office bearers of a large number of school societies, or as members of the school council or the house councils. There are as many as twenty-six societies, such as the debating society, Hindi and English literary societies, scientific society, the chess club, and many others. The secretaries and house representatives of all these societies gain valuable experience in planning and organizing meetings and in carrying out the work assigned to them. In the houses they look after the common-room, garden, dining-room, and the house notice-board. When parties go out on expeditions, boys are given various positions of responsibility. It is through trial and error and under heavy criticism from others that they learn how best to carry out a duty entrusted to them.

Service to the Community

All boys above thirteen years of age are required to do a certain amount of work every week for the school community. There is a school labour secretary who keeps a record of this work, and informs the house labour secretary about those who are short of work. The house labour secretary organizes work in the house for such boys, or for others who may wish to help. Boys also work for the school adult education society, and visit a neighbouring village which the school has adopted.

Obedience and Leadership

We train boys both to obey and to lead when opportunity arises. This they learn during games, which are organized by the boys, in the school where the general discipline is in the hands of the prefects, in the houses, which are to a large extent run by the house captains and monitors, and during P.T., when the school is divided into squads of about fifteen boys each, led by a senior boy. It is very rarely that a boy is difficult and defies the authority of a prefect or a captain. When this happens he is reported to the captain of the school, who gives him a penalty.

By the time a boy becomes a senior in the school, he has had experience of both obedience and leadership ; he has realized that only those are worthy of being leaders who have learnt to obey.

S. P. Sahi

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The S.S.L.C. Examination in English

THE PURPOSE of the S.S.L.C. examination is, of course, to separate those who have reached the desired standard in certain skills or fields of knowledge from those who have not.

The questions I will try to answer in this paper are: What exactly are these skills or fields of knowledge, where English is concerned? What are the standards desired? What types of examination can, in fact, separate those who have reached these standards from those who have not?

At present, as is generally known, many S.S.L.C. examinations in English test (*i*) the ability to forecast the examination questions; and (*ii*) the ability to memorize answers to these questions which have been prepared by other people and which the candidate does not necessarily understand at all.

Do the educational authorities really want these two abilities to determine who is to pass the S.S.L.C.? Are they abilities which will be useful to the students later—at the university, in a job, or elsewhere? I think all education authorities would answer both these questions in the negative, and would say that the abilities which will be useful to the students later are: (*i*) ability to read English books on their subjects; (*ii*) ability to understand lectures and other examples of spoken English; (*iii*) ability to speak simple English intelligibly; and (*iv*) ability to write simple English reasonably correctly.

What can we do about this?

Realistic Choice of Texts

First, we can ask ourselves: Why do students memorize answers to expected examination questions instead of learning English? The main answer, to my mind, is this: The books they are expected to study in the higher secondary school are far too difficult for them; there is no bridge between what they were taught in the middle school and what they are suddenly (and miraculously) expected to know at the beginning of the higher secondary school. As a result, the teacher and the students have to struggle desperately to get through the books in the time allowed, with the inspector and the principal there to see that they do it. Even the best teacher will fail to teach his students English under these conditions.

Why are the books much too difficult? Because those who select them do not realize that times have changed. In the old days, most children began English at an early age, and heard it in all their classes—geography, history, mathematics and the other subjects. Under those conditions, they could pick up English

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and make rapid progress whatever the methods of teaching, and could come to the higher secondary school, after seven or more years of English, with the ability to understand the prescribed books.

Now, however, most children come to the higher secondary school after only three years of English, during which they have heard English only for a few hours a week, in the English class. Obviously they cannot be expected to read the books their predecessors could. We have to cut our coat according to our cloth if we are to achieve any results.

The fact is that, by setting an impossibly high standard, we are not only failing to achieve that standard, but are actually failing to achieve any worth-while standard in those aspects of learning English that have any value. If, after struggling through the prescribed texts, the children could read and appreciate Shakespeare or Dickens—or even Somerset Maugham—one could say: 'We have succeeded in keeping up the standards.' But if they cannot, what is one achieving? A realistic choice of texts would enable the teacher to bring the children up to a reasonable standard, from which those with ability could rise to greater heights when they went on to the university or elsewhere. A broad, solid platform at a modest height above the ground is a better taking-off place for the stars than a tiny, shaky platform at a dizzy height.

The Examination

If we can get a realistic choice of texts, we can then go on to the question of examinations proper. How can we separate those who have reached a reasonable, realistically chosen standard in (*i*) ability to understand what they read; (*ii*) understand what they hear; (*iii*) speak; and (*iv*) write, from those who have not?

(*i*) To test reading ability, we must obviously have a reading test: we must give the candidates a piece to read silently and then get them to answer written questions about it to see if they have understood it. The piece must be unseen, so that there can be no cramming; it must be within the limits of vocabulary, idioms and grammatical structures that the educational authorities have set as the standard for the examination; it must be long enough to be a test of reasonably rapid reading as well as of reading for comprehension; and the questions must test comprehension, i.e. they must be questions that can be correctly answered only by those candidates who have understood the piece. The questions can be of the essay-type, in which the candidates have

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to provide the answers (the test is then partly one of writing); or of the objective type, in which several answers to each question are given, and the candidates have to choose the correct one (the test is then only one of comprehension).

(*ii*) To test understanding of what the students hear, we must give the candidates something to listen to, and then find out whether they have understood it by giving them written questions (here again, the questions can be essay-type or objective-type). As an alternative we can ask them to write as much as they remember of what was read out, using their own words if they wish.

I suggest that the piece should be read twice to the candidates, either by an examiner, or with the help of a tape-recorder (the latter ensures that all candidates, whatever their school or section, hear the same voice reading the piece). The piece should, of course, be within the limits of vocabulary expected from successful candidates.

(*iii*) To test speaking ability, we need to have an oral test, in which each candidate is examined separately, to see whether he can answer questions, ask questions, and speak a few sentences on a simple subject (e.g. describing a picture). At least five minutes should be allowed for each candidate, and one must have as much uniformity as possible among the examiners as regards their own pronunciation and the standards they expect from candidates. However, these factors may make it impossible to have a test of speaking ability, in which case we should omit it from our list of aims: neither teachers nor pupils will take an aim seriously if they know it will not be tested in the S.S.L.C.

(*iv*) To test writing ability, we must determine whether the candidate can (a) use the words, idioms and grammatical structures he is expected to know; and (b) collect, arrange and present his ideas satisfactorily. For (a), one can use objective-type tests (filling in blanks, choosing between alternatives, etc.); and for (b), use composition tests.

I think it is very important, in (a), to have questions which are contextualized, i.e. in which everything appears in a realistic situation, so that language is not treated as something mechanical, divorced from real life, but as something which is intimately connected with the world around us.

In (b), composition tests, it is essential to avoid anything that can be crammed before the examination, as is so often done at present. When I was head of the Department of English in the University of Indonesia, we used picture-composition tests and 'skeleton' tests very successfully.

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The first of these consists of a series of pictures (four, six or eight) like a strip-cartoon. The candidates are asked to write the story told by the pictures, including (if they wish) any events leading up to the situation in the first picture, and any events following the situation in the last picture. They are also asked to give the story a title, and to keep within certain limits of length (e.g. not less than 250 and not more than 350 words). As the number of picture-stories one could invent is limitless, there is no possibility of cramming. Marks are deducted both for language errors and for failure in keeping to the story, so that a student who writes an essay (which he has learnt by heart) in perfect English, but on quite a different subject, gets no marks. This is because language is a social activity: its purpose is to convey information, or arouse emotions, as required by the situation.

I would not include tests of translation, formal grammar, or prescribed books in the S.S.L.C. Examination. I think that the translation skill is separate from the other four, and that translation is therefore not a good test either of comprehension or of composition. Furthermore, I believe it is an advanced skill, which should not be taught, or examined, until the postgraduate stage.

As for formal grammar, I do not think the ability to parse, analyse and, in general, talk about grammar has anything to do with actual ability to read, understand speech, speak and write. It is quite possible to know all the rules about singulars and plurals by heart, and yet to make mistake after mistake in singulars and plurals when speaking or writing. And it is also possible to speak and write correctly without knowing any of the rules in theory. The important thing for the S.S.L.C. to test is not theory but practice.

As for prescribed books, I do not favour an examination on these, because it merely leads to cramming. It is possible to pass an examination on prescribed books without ever reading them. All one needs to do is to get hold of summaries and model answers to expected questions and then learn these by heart. The purpose of getting students to read books should be to give them practice in the skill of reading rapidly for comprehension, not to give them practice in learning by heart. If the books which are prescribed for reading are properly selected, they will help the students to become more skilled in reading rapidly for comprehension, i.e. they will help the students to prepare for the test of reading ability which I have suggested above. The students will be encouraged to read the books for this reason, and not because there will be questions about them in the examination.

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Of course, before we can change the examination system so that it really tests command of the four skills, we must show the teachers how to get their students through the new examination successfully. To change the examination system without at the same time changing the methods of teaching would be disastrous, because then the teachers would be pursuing one goal, by preparing their students to get round the examination without really learning English; while the examiners would be pursuing quite another goal, by really trying to find out which students have learnt English, and by preventing students from getting round the examination. We must be fair to the teachers and students by giving them plenty of notice of the change, suitable books, and retraining (in the case of the teachers) in the new methods of teaching required.

L. A. HILL

Shreyas—A Profile

Introduction

THE PRIMARY AIM OF EDUCATION is to educate man for life and for society. Education makes the individual and also builds society. These functions are interdependent—the latter follows from the former and hence at no stage should they be contradictory. The individual should be in harmony with the external world and its changing values. At the same time he should be an integrated personality with a balanced development of his creative faculties. The spirit of unison should come from within. The education of today should aim at developing the ' complete man '. We at Shreyas are working to achieve this ideal through an integrated curriculum in an atmosphere of disciplined freedom.

Community Life

Shreyas, a co-educational day-boarding school, was founded in November 1947. We began with 22 children of the primary stage (age-levels 6 plus to 11 plus) and six teachers. Gradually a high school (12 plus to 15 plus) and a nursery (2 plus to 5 plus) were added on. The high school senior section was recognized in 1951 by the Bombay Educational Department as a special experimental secondary school which took the S.S.C. examination. Our experience with students from the age of 2 plus to 15 plus led us to believe that at 16 plus pupils were too immature to leave school and go to a

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university. So, to enable our pupils to continue their schooling up to the age of 18 plus, we applied in 1954 to Gujarat University for the affiliation of the Shreyas Intermediate Science and Arts College. Our conception of the complete education of the child covered all stages from the nursery to pre-university. It was, therefore, eminently desirable to administer the school and the intermediate college as a single integrated unit. We could clearly see a continuity in the growth of the child and consequently we aimed at meeting the needs of such a growth until he should become an adult. The watertight sections labelled 'nursery', 'primary', 'secondary' and 'intermediate college' were to be accepted as a means only to achieve a certain facility for working purposes. The students would have to be divided, no doubt, into smaller groups according to their age-levels and aptitudes in order to pursue diverse activities and courses of study. At the same time, the community life of Shreyas would enable them to contribute towards, participate in and serve the social and cultural activities of the institution as a whole.

There was at the time not a single example in Bombay State of this type of school. After a full year's deliberation the Senate of Gujarat University took the progressive measure of granting us permission to run our school and the Intermediate College in the same premises and to utilize members of the college staff for the lower secondary section within limits prescribed by the University regulations. In June 1955 the Shreyas Intermediate Science and Arts College came into being.

Shreyas College does not intend to have more than 35 students in a class, 'a group' as we call it. The teacher-student ratio today is 1:5. When we have the maximum quota of students envisaged in all the four classes, we shall not exceed a total of about 150 alumni.

Our students come to Shreyas at 8 a.m. and stay till 3-30 or 5 p.m. or even later for games, fine arts, or extra classes which are optional. All of them have their morning snack and lunch on the premises. Our college works 192 days in the year, excluding Sundays, ten recognized public holidays and two vacations of twelve weeks in all. We make it a point not to close for any reason which is extraneous. Even during the political disturbances in the city of Ahmedabad in August 1955 we carried on as usual, with the co-operation of the students, in the face of coercive demonstrations by a hostile crowd of students from outside. We have not been confronted so far with any baffling problems of student indiscipline.

There are at present 80 students in the college section and 218 in the school. The teachers as well as students come from different parts of India: Bengal, Uttar Pradesh, Maharashtra, Kerala and Madras. Every one of us, teacher as well as pupil, does his share

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for the 'self-help' (आश्रय) programme of the Shreyas community, such as cooking, washing dishes, cleaning rooms, the care of pets, maintenance of the garden and playground, and minor repairs. This is a vital aspect of social participation. Each student has a certain amount of time during the week to cultivate his aptitudes and interests. Other co-curricular activities include debates, popular lectures by eminent people, reading of papers on a variety of subjects bearing on the natural sciences, humanities and social sciences. Then there is, in addition, the Shreyas Assembly or the students' democratic government.

More recently we have started a vocational counselling centre. In the vacations, students are encouraged and assisted to work as apprentices in libraries, hospitals, transport services, social welfare centres, printing presses, shops and workshops, so that they may be in a better position to discover their latent potentialities. Ours is not merely a co-instructional institution for boys and girls, it is co-educational in the fullest sense of the term.

We have a hostel which can accommodate about 50 students. The boarders come from Bombay, Bengal, East and South Africa, and from small villages of Gujarat. We are now housed in rented and loaned bungalows, flats and small huts on a pleasant estate of 4½ acres. Twenty staff members out of a total of 42 are housed in quarters which are situated in the vicinity of the school. The Government of Bombay has helped us to acquire 33 acres of land. We are now busy preparing plans for a new campus which will be a real school village.

Ahmedabad bears a markedly regional character. We have, consequently, adopted Gujarati as the medium of instruction, although students are made familiar with Hindi and English from the age of 6 plus. They are also familiarized with Sanskrit at an early stage through the chanting of verses. English has been made an optional medium at the first year college level, as Gujarat University has granted such permission to colleges up to 1961.

Method of Learning

We try to inculcate in the student's mind the correct techniques of study by the scientific understanding of a problem, and by the ability to apply this understanding to various phenomena. It is not good enough for a student to tackle a subject merely to get over the hurdle of an examination on the way to a career. The fundamental postulates and causations that form the background of a subject are stressed. Further, the basic reasoning process common to various branches of the same subject as well as other subjects is developed.

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Swadhyaya

A notable feature of Shreyas is that periods are allotted to 'self-study' seminars in small groups under the guidance of teachers. Students are encouraged to discuss and tackle typical questions and problems and to solve them on their own. These classes give the students scope to discuss the subject independently and to develop an analytic approach to the subject based on independent reasoning. Further, they help teachers to make a correct estimate and evaluation of the attainments of the students in different subjects.

We disapprove of teachers dictating notes to a class; the lecture system is at a minimum; the question-answer method is in vogue. Students are asked to write compositions regularly every week, which develops precise expression and individual initiative.

Students are encouraged to look up reference books to supplement the knowledge they acquire from textbooks. Teaching aids are used in science and social studies.

Science is taught with an emphasis on practical and laboratory work. A methodical use of apparatus and appliances is attempted and an analytic approach to the subject is developed. This is achieved by making the students work as laboratory assistants in the *swashraya* period, preparing solutions, labelling and marking specimens, and helping the teachers to set up complicated apparatus. Seminar classes are also utilized to achieve this end. We are trying to evolve a method of studying science which will help bridge the wide gulf that exists today between the university and the research laboratory.

Pupil-Teacher Relationships

It is our aim to build personal contact between the teacher and the student, an all-important aspect of education which is normally not feasible. Every teacher is urged to observe and note the mental development, problems and aptitudes of each student, and diagnostic tests are made. Seminar classes also help in this respect. A spirit of informality and cordiality is encouraged through disciplined behaviour.

In addition to subject teachers, there is a group teacher, one to a batch of 25 students, who looks after the general progress and conduct of each individual and submits a comprehensive report which, together with other academic reports, is shared with the guardians once a term. In cases where action is called for, the guardian is approached at mid-term and a decision arrived at after consultations.

This closer teacher-student contact exerts a wholesome influence on the students, who may be seen to grow in mental stature, and to become more disciplined, well-mannered and studious.

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We do not lay much stress on examinations as a criterion for assessing the progress of students. We have developed a detailed, comprehensive method of reporting on and evaluating each student's academic progress and achievement together with qualities of his personality and traits of character. In fact there are no examinations at all up to the age of 12 plus. Thereafter, although some tests are given, we get a substantially correct picture of each pupil's academic progress, personality, and ability from the weekly, monthly, terminal and yearly reports maintained by the teachers on the basis of his written and oral work. Parents as well as students are taken into confidence about the contents of these reports. Occasionally the aid of the B.M. Institute of Psychology and Child Development is sought for psychological investigation. We are glad to say that the students who have been with us for some years have shown excellent progress and have scored very highly in public examinations.

Other Activities

Dramatic activity is an important technique of education and since the beginning of this academic year we have been exploring it at all levels. Voice production, speech-training and elocution are emphasized in the senior classes. Acting stimulates self-expression and helps the student to get over certain inhibitions. Dramatic activity also helps to develop sensibility and the power of observation, and gives scope for group interaction.

The cultivation of the aesthetic sense is given a legitimate place, and some time is devoted to its expression generally after the end of the academic year. Last April we chose 'The Way of Life in Saurashtra' as the theme for our periodic *mela*. Batches of students and teachers toured different parts of that region, lived with the village folk, and made a detailed study of their cultural pattern and way of life. We discovered in the planning of the *mela* new techniques in learning and in the moulding of character.

All these activities are helping the young people here to acquire a certain uprightness, tolerance, initiative, resourcefulness and repose, and it is this achievement that makes our task worth while. We have a core of sincere and devoted workers who strive to enrich the community life at Shreyas.

LEENA MANGALDAS AND P. R. SENGUPTA

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Book Reviews

M. L. JOHNSON ABERCROMBIE: *The Anatomy of Judgement* (Hutchinson, 1960), Demy 8vo, pp. 156, 25s.

This book, described as an 'investigation into the processes of perception and reasoning', is the result of ten years' work with groups of science students. The author is primarily a zoologist and she supplements her own findings with reference to the work of others who are concerned with research in perception and group-psychotherapy.

The book is divided into two parts; in the first part the author considers perception and the influences which may affect it. She shows that accumulated experience, our usual guide through life, may distort observation and judgement. Scientists in particular and other people in general need to be trained to differentiate between description and inference.

What is the best way of training students to observe accurately and to interpret correctly? Having established that observation is often inaccurate and that therefore interpretation cannot be correct, the author describes her methods of working with students in small groups. She emphasizes the difficulties that face a teacher used to didactic methods when adopting a technique which requires that the teacher should provide the right situations and then allow the students to train themselves.

The author is specifically concerned with training young scientists how to be scientific: 'Observation in science . . . involves guessing. What we are concerned with is learning to make the guess as good as possible.' But is this not every teacher's job?

The author describes how her groups worked and summarizes the results of her experiments. The students who had taken the course, when compared with others who had not, tended to discriminate better between facts and conclusions, to draw fewer false conclusions, to consider more than one solution to a problem, and to be less adversely influenced in their approach to a problem by their experience of a preceding one.

Considering the suitability of her methods for wider application, the author remarks that we do not know what the effects would be, of allowing children to 'interact intellectually more freely than they do now since we are still prejudiced in favour of formal education'.

The author dealt with groups of twelve students, but even if our teachers—university as well as school—can hardly dream of numbers so small, yet they cannot afford to ignore such findings as these which underline the inappropriateness of so much that Indian teachers do not wish but are compelled to do.

Much of the second part which is more concerned with purely scientific training is harder going for the non-scientist. Yet a reading of it gives a better understanding of the author's aims and principles.

This is a book which should be read by those who are interested in the results of educational research and experimentation.

* * *

EDNA JOHNSON: *Seven Wild Animals, Seven Insects, Seven Sea Creatures, Seven Reptiles* (Basil Blackwell, 1959), Crown 8vo, pp. 15 each, Rs 2 each.

This beautifully illustrated series of four books will delight the heart of any primary school child. The titles speak for themselves; the animals, insects, sea creatures and reptiles discussed are the more common ones. Each animal, insect, reptile and sea creature is presented in black-and-white photographs and a short description is given on the facing page in large, bold type. The descriptions do not exceed two or three short paragraphs, so they do not tire the young child.

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The descriptions focus attention on the important characteristics of the species.

The illustrations are the highlights of these books. Six pages, including the cover, have beautifully coloured pictures by Anyon Cook. The other pictures are in black and white, and the species are shown in their natural surroundings. Most of these photographs are by courtesy of the Zoological Society of London. All parents and all schools should put these books in the hands of their children, if they wish to create in them an interest and love for the world of nature around them.

* * *

A.I.R. Miscellany, 1959 (Publications Division, Ministry of Information and Broadcasting, Government of India, 1959), Medium 8vo, pp. 195, Rs 2.75.

The *A. I. R. Miscellany, 1959* consists of talks and features selected from broadcasts by various stations of the All-India Radio during 1958.

The compilation of these in book form is a new idea: formerly selections were published in a quarterly journal. And it may be said that the material presented here deserves a permanent form. It covers a variety of subjects—even if only in snippets—history and philosophy, music and sculpture, literature and art, science and law, current affairs, education, mountaineering, and nature study. The subjects range from 'The Meaning of Life' and 'The Mind after Death' to 'Nursery Rhymes' and the 'Gardener's Diary'.

The teacher who is ever a student—as every teacher should be—and who yet has little time for study at his disposal, will find it refreshing to turn to this volume. He can visit Ajanta and Ellora, learn of wild life in modern India, hear versions of the Ramayana and the Mahabharata or of the Icelandic saga which tells of early Viking history. He can be present at the excavations of ancient cities, such as Taxila, as well at modern community projects and national enterprises. In every case the information is authoritative, expert and usually interesting. Unfortunately it is presented in tabloid form. This however, will probably not be altogether objectionable to the teacher who has little time for sustained and specialized reading.

It should be a useful volume to have in the school library, or better still, on the reading-room table. The varied fare presented will attract some pupils to serious listening and reading. But they will need some guidance from the librarian or teacher, or they may put the book down too soon without finding what suits their taste.

The compilation is most interesting in the constant revelation of new facets of Indian culture. There is a discussion by Thakur Jaideva Singh which reveals the important changes in Indian music produced by increased mobility and by the replacement of court patronage by modern music colleges and above all by the broadcasting system.

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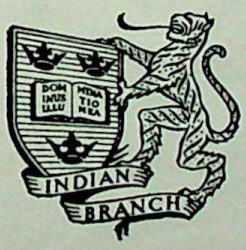
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Edited by
MARGARET BENJAMIN

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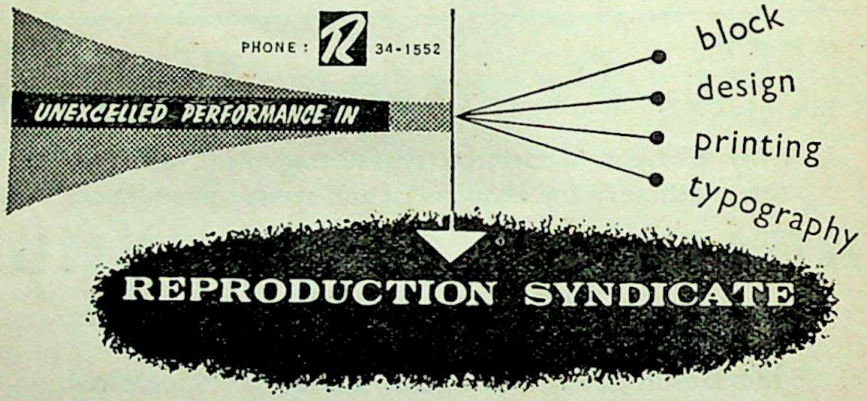
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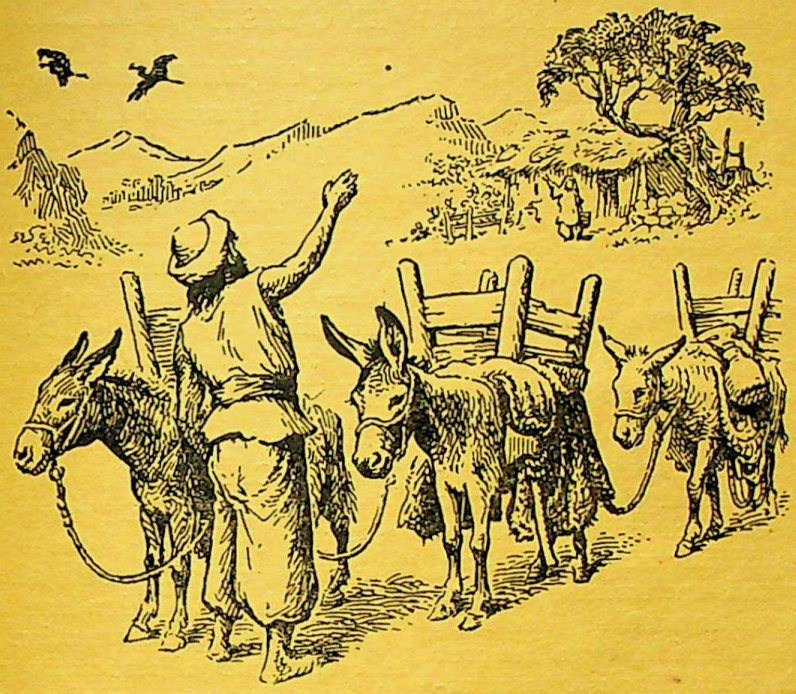
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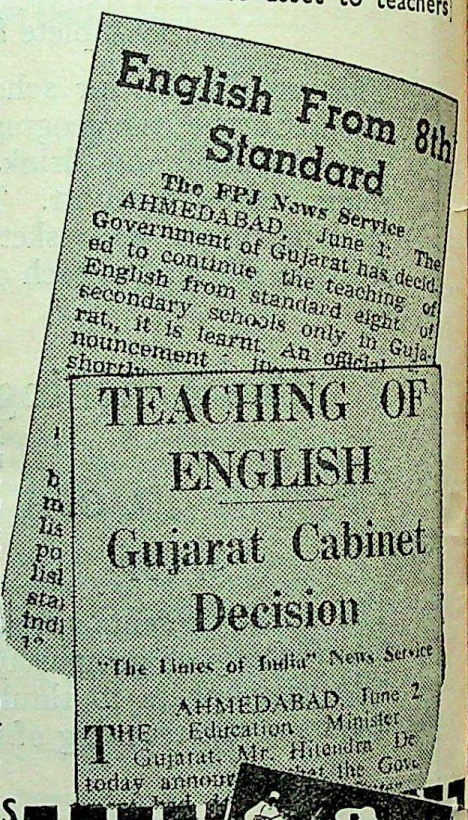
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Editor: MARGARET BENJAMIN

VOL. XXXIII SEPTEMBER 1960 No. 1

Editorial

WHAT A DIFFERENCE there is between the geography taught in schools—even in progressive schools—fifty years ago and that which the ordinary teacher is supposed to aim at teaching today. Then, it was no more than a learning by heart of definitions, explained or not, understood or not, strings of names of seas and countries, capitals and chief towns, mountains and rivers, lakes and islands.

Sometimes, however, even these dreary lists of names of distant volcanoes set a poet dreaming, as when Turner sings:

'Chimborazo, Cotopaxi
Took me by the hand'

and

'I stood where Popocatapetl
In the sunlight gleams.'

But what percentage of those weary children in the geography class were poets?

If taught thoroughly, intelligently and honestly geography must create in every child a burning desire to know more of the world and its people, not merely the people of his own land. A habit of geographic thinking should be encouraged from an early stage. Such a habit will remain with the pupil long after he has forgotten all the names and facts which were crowded into his memory. To a great extent it is because the general public is ignorant of geography, and even governments and diplomats know so little geography, that so much has gone wrong with the world.

In order to achieve our aims what should we require of our geography teachers? They must be people with a real understanding of geography. They must have a thorough knowledge of their subject. This seems perfectly obvious; but look around you and you will find that while schools have specialist teachers

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for Hindi, English, foreign and classical languages, science, mathematics, art, physical training, and music, only a negligible percentage of schools have qualified teachers trained to think geographically. Principals of schools seem to imagine that anybody can become a geography teacher.

The world is changing fast. Phineas Fogg took eighty days to go round the world, but now it can be done in less than eighty hours and no doubt will soon be achieved in less than eighty minutes! Within the last few months how many new independent states have come into existence in Africa. Though changes in the physical structure of the world are much slower, even so islands have been thrown up from the ocean bed in recent times. Yet most teachers rely merely on such information as they themselves gathered during their school or college days. Let us however not be too severe on them. To keep abreast of new geographic knowledge they must have easy access to up-to-date information. Few schools have an up-to-date economic atlas or world gazetteer, if they have one at all. The country has been divided and redivided, but how many schools have maps showing these divisions? Often teachers have to rely on cuttings from newspapers, but even here they have no systematic method of filing information. No science teacher would be expected to teach without test-tubes and balances, but the poor geography teacher must do without maps, save the apologies for them in textbooks.

The majority of our pupils being poor, the textbooks have to be cheap, and hence they lack good pictures of geographic interest and a sufficiency of diagrams. Old blocks are used over and over. Often the pictures are such that to children who go regularly to the cinema and see newsreels they appear ludicrous.

There are today a fair number of films and filmstrips suitable for use in geography classes. However it is hardly possible even for a school that has the apparatus to borrow them just when they are wanted for the lesson.

All-India Radio gives good talks dealing with various aspects of geography which give a new slant to classroom learning. While some schools make every effort to listen, others make all sorts of lame excuses and deprive their pupils of this added interest in their work.

Geography rooms are mostly to be dreamed of and hoped for in some bright and happier future, though every teacher learns about them. In the present overcrowded conditions of most schools in this country, many which did have this enviable possession have had to turn it into an ordinary classroom.

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The aim of geography teaching should be to give our pupils a world sense. However ill-equipped our schools may be, every geography teacher can train his pupils to think of themselves as world citizens. Good geography teaching, while emphasizing the home country, should bring out the interdependence of all countries and peoples. The teacher while showing the differences between peoples can bring out the essential needs and hopes of all peoples and show how they are trying to achieve these. Such a treatment will lead to international understanding, of which the world stands in sore need today.

AMY RUSTOMJEE

Ocean Currents: A Plan for Lessons on Atlantic Currents

'My soul is full of longing
For the secret of the sea,
And the heart of the great ocean
Sends a thrilling pulse through me.'
('The Secret of the Sea'—Longfellow)

LESSONS ON OCEAN CURRENTS and their effects on the activities and well-being of man would come late in the Senior School, although mention of cold and warm currents must inevitably have been made in the later Middle School, and early Senior School, possibly in Standards VII, VIII and IX. In the last-named class currents might be treated in a cursory manner, but it would be in Standards X and XI that the treatment would be full.

Ocean currents could not be disposed of in one lesson—two or conceivably even three lessons might be required if the treatment is to cover all the major currents in the world, and the previous knowledge necessary for successful lessons on this absorbing theme would include a thorough knowledge of the planetary wind systems of the world. This is the first requisite and a *sine qua non*. Next, some familiarity with the fact that the density of water varies with its salt content and temperature is required. Then, and with this fact children will have been familiar for many years, a knowledge of the direction of the earth's rotation is essential.

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Teaching Aids

(*i*) WALL MAP: A large wall map, preferably one that is bathy-orographical, should be used. Such a map could profitably be mounted on rollers, and would have ocean currents marked on it. Wenschow Relief Maps are perhaps the best available material for the purpose.

(*ii*) ATLASES: The teacher should be equipped with a good, modern atlas. Many are available—for to the making of many good books there is no end. The *Faber Atlas*, edited by D. J. Sinclair of the London School of Economics, and with a preface by L. Dudley Stamp, has a comprehensive map of ocean currents in winter. Also, the *University Atlas,* edited by Goodall and Darby, has a map of ocean currents with somewhat unusual colouring. The cold currents have been marked in buff, presumably to avoid confusion with the colouring of the sea. Then the *Advanced Atlas of Modern Geography* by John Bartholomew has an excellent map of currents shown in the conventional red and blue lines for warm and cold currents respectively.

Actually, the more fortunate students might themselves possess one of these atlases. Many, however, would have the *Philips Modern School Atlas* or Meiklejohn's, in which there are maps of currents, and these, though not as large as those in the teacher's atlas, would take on a new meaning with the use of a magnifying glass. After all, this is true of all maps, and many good and reasonably cheap magnifying glasses may now be had.

Influence of the Trades and Westerlies as Impelling Forces

After a brief revision of previous knowledge, in which the teacher would emphasize the east-west trend of the Trades and the west-east movement of the Westerlies, the class would be told that it is the Trades that trigger off the vast movement of water on the surface of the oceans as they drive masses of water from the west towards the eastern margins of the continents, and in doing so they effect a rise of water amounting to 4 cms. in the kilometre. From here, other causes, such as the shape of the continents and the driving force of the Westerlies, convey warm, equatorial water to temperate and arctic regions.

The method of starting a lesson on ocean currents from the currents of the Atlantic cannot be improved upon, and the class would now focus its attention on the middle Atlantic. Lessons on ocean currents must inevitably begin with equatorial currents, as it is the Trades, blowing water equatorwards, that set the whole complex system of currents in motion, as has already been explained. Thus the N-E. Trades blow the N. Equatorial

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Current westwards, north of the West Indies, where it becomes the Antilles Current. And south of the Equator the S.-E. Trades drive the S. Equatorial Current westwards, below the West Indian Islands, where it becomes the Caribbean Current.

Effect of the Earth's Rotation

But at this juncture the effect of the earth's rotation on these equatorial currents would be pointed out, by which these westward moving equatorial currents are deflected slightly north and south of the equator. More important than this deflection is the creation of counter equatorial currents. In the case of the Atlantic the counter equatorial current merges with the Guinea Current below the coastlands of West Africa.

Effect of Temperature and Salinity

The class must now know that the causes of the movement of water already given—winds, the shape of land masses, and the earth's rotation—cannot wholly account for the almost mysterious, almost purposeful movement of water. The effect of evaporation makes water more salty, whereas the effect of rain is to 'freshen' the seas again.

Cold water is denser than warm water, and having a greater specific gravity will sink below it. Something of the analogy of the meeting of cold and warm winds in 'fronts' can be brought out here, as the class will have studied the climatic implications of 'fronts' before this. Cold water, then, will sink to the ocean depths.

Salt water too, is denser than fresh water and so will sink below it. The class will now be told that incredibly enough, owing to the major factors of temperature and salinity, there are movements both on and below the surface of the oceans, along unknown, unseen 'slopes' within the oceans.

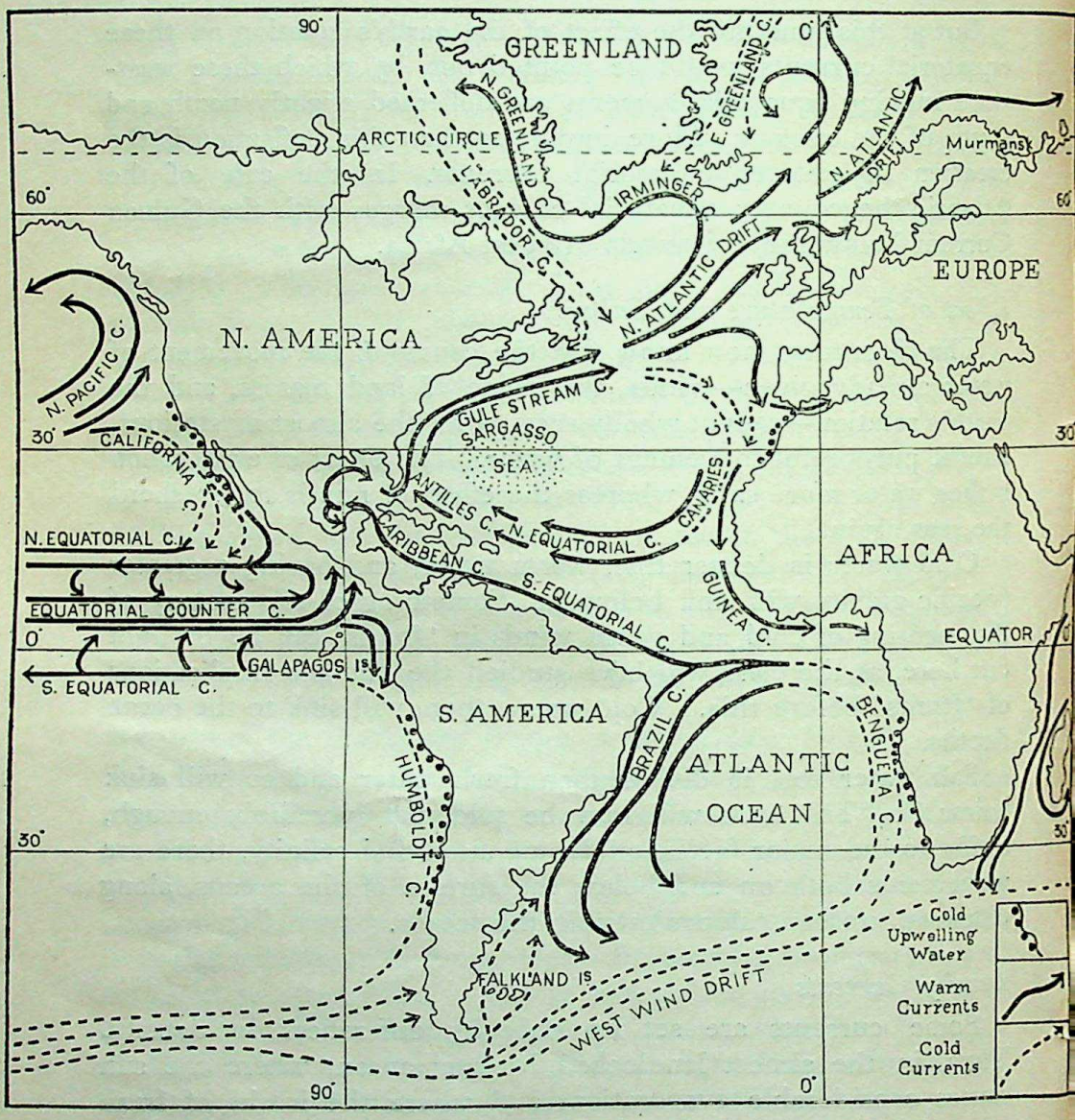
Density Currents

Some currents are set up only by differences in density. Thus, in the almost landlocked Mediterranean, where the sun causes considerable evaporation, and where the intake of fresh water from rivers is less than that in the Baltic (where melt-ice also provides more fresh water—which condition is absent in the case of the Mediterranean), a dense salt-water current moves over the submerged sill in the Strait of Gibraltar at a great depth and settles at about 500 fathoms far out in the Atlantic in the vicinity of Bermuda, where the deep water is of the same density. Some correlation with modern history could be made here by telling

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the class that during the second world war the Germans made use of this cycle of currents, when they came into the Mediterranean to attack allied shipping in their U-boats on the 'fresh' upper Atlantic current and drifted out, with silenced engines, on the deep, dense, salty Mediterranean current.



THE CURRENTS OF THE ATLANTIC

Currents of the Atlantic : The Gulf Stream

If the Atlantic affords examples *par excellence* of the world's ocean currents with their clockwise swirls in the N. Hemisphere and anti-clockwise swirls in the S. Hemisphere, then obviously the Gulf Stream is the *pièce de résistance* of all Atlantic currents,

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as it moves from the warm shores of the Gulf lands to the Arctic coasts of N. Norway and beyond. Its movement can easily be traced by students, since the Atlantic is a relatively 'confined' ocean, bounded on east and west by large land masses.

The class would then be told that the Gulf Stream is the most important current of the Atlantic, and that in geologic ages long past this current must have swept into the Pacific Ocean when the Americas were not joined by the Isthmus of Panama, but that now, as it enters the Gulf of Mexico through the Yucatan Straits, it is made up of the S. Equatorial Current and the Caribbean Current, and is reinforced by much surface water piled up in the Yucatan Straits and the Gulf by the N.-E. Trades.

Ideas of Sea-Level Upset

So much water is piled up in the Gulf of Mexico that the level of the sea there is actually higher than that in the open Atlantic beyond the southern tip of Florida. Also, along the surface of the current itself there is a further variation in level, as, by virtue of the earth's rotation, surface water is piled up on the right side of the current; so that at Cuba, for instance, the level of the sea is $1\frac{1}{2}$ ft. higher than it is on the bordering Gulf lands. Thus when it enters the open ocean beyond Cape Sable in Florida, it actually flows 'downhill'!

The current then closely follows the line of the Continental Shelf of the N. American mainland, swinging out to the open sea after it leaves Cape Hatteras, the last of the four perfectly chiselled capes that it has obviously formed by its swirling eddies.

Mariners in centuries gone by regarded the Gulf Stream as a 'river in the ocean'. This 'river' is like no land stream, for its warmth is felt up to a depth of a mile below the surface. It is true it does not flow as swiftly as it once did—at 6 m.p.h.; now it moves at a rate of 3 knots. But its identity as a warm current is clearly perceptible for a distance of about 95 miles from one edge to the other.

Character of the Gulf Stream

Warm water is blue, almost an indigo blue in parts, while cold currents are a bottle green. Thus one may clearly discern the blue Gulf Stream current in the Atlantic. At this juncture the class might well be shown Winslow Homer's realistic painting entitled, 'The Gulf Stream', in which 'a lone survivor, groggy from storm and weak with hunger, lies on the deck of his battered sloop. Mast, rudder, hatch, have washed away, and circling

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sharks are waiting for him to slip off the sloping deck. . . .' This picture, the original of which is in the New York Metropolitan Museum of Art, clearly brings out the idea of the colour of the Gulf Stream waters. These variations in colour are best seen where a cold polar current, composed chiefly of melt-ice, meets a north-moving warm current, as in the case of the cold Labrador and the warm Gulf Stream.

New Ideas about the Gulf Stream

The idea that this mighty N. Atlantic Current is a single stream of water is now being revised, for the best-informed modern opinion considers it to be made up of four separate currents much narrower than the single stream that issued from the Florida Straits. These four narrow currents are separated by winding, ever-changing, eddying currents.

Again, in recent years it was thought that the Gulf Stream was moving northwards towards Iceland, abandoning the course it had followed through ages of known time. This 'discovery' of certain North Sea fishermen was fortunately found to be incorrect. Had this been the case the lands of western Europe would have suffered from the rigours of far more severe winters and far less tolerable summers; for it is the planetary winds blowing over warm currents, in this case the South Westerlies blowing over the warm Gulf Stream, that transport relative warmth to the lands of Western Europe.

Climatic Implications of Currents: The Winter Gulf of Warmth

This warm effect is felt in the seas up to the north and east of the north Russian port of Murmansk, well above the Arctic circle in the Kola Peninsula. It keeps icebergs and pack-ice away from these regions, which remain ice-free all the year round in contrast to conditions that prevail at Archangel, at 64°40′ N.—or somewhat below the Arctic Circle.

At this point the teacher might correlate further with modern history by telling the class that it was this warming effect of the Gulf Stream Drift that enabled Britain 'to deliver the goods' to her ally Russia during the second world war, approximately once a fortnight even in winter, even though by doing so her fleets ran the gauntlet of lurking German submarines and warships in the sheltered Norwegian fiords, and of aircraft in the airfields beyond.

The students must realize that currents affect the climate of lands indirectly through the prevailing winds that blow over them, and thereby transport their warmth onshore. Thus the

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British Isles and N-W. Europe have relatively milder climates than lands in corresponding latitudes in N. America over which the Westerlies are offshore, land winds. This is of course most true of the continental interiors and eastern margins where the cold Laurentian type of climate prevails.

Effects of Cold Currents on Deserts

Off the north-west and the south-west coasts of Africa there are what are known as 'cold water coasts'. The class may be asked to venture an explanation as to what is meant by 'a cold water coast'. Here hot deserts reach the coasts: in the north-west it is the Sahara and in the south-west it is the Namib. Cold water wells up from the ocean deeps when surface water in both the Canaries and Benguela Currents is blown away by the prevailing Trades in each case. Also, there is an upwelling of cold water nearer land. Fogs that form offshore by intense condensation over the cold water are blown for varying distances inland by local sea breezes, but here they are subjected to a dual desiccation. It is conceivable that some students will be able to say what these desiccating forces are, namely, the drying effects of solar insolation and also terrestrial radiation; and so the fogs and clouds are eventually dissipated and no precipitation takes place. Thus cold water currents are a contributory factor to the existence of deserts on the north-west and south-west margins of continents in the trade wind latitudes. Students would probably expect quite the reverse to happen.

The Human Response: Currents and Fishing

Currents carry oxygen for marine life. They may also carry seeds and are thus agents of seed dispersal. Currents aid navigation. Some of the world's richest fishing grounds occur where warm and cold currents 'meet'; and even if most fish prefer warm water as their habitat, cold water, such as cold currents and cold upwelling along the coasts of Morocco, Angola and S.-W. Africa, provide the necessary minerals to sustain the diatoms and minute algae that indirectly feed fish. Again, rich fishing grounds occur off the shores of Newfoundland where the cold Labrador meets the warm Gulf Stream. But here extremely dense fogs, that sometimes last for 70 days, are caused as the Gulf Stream, warm and vast, enters the cold regions of melt-ice in the N. Atlantic. These fogs caused by intense evaporation and condensation jeopardize fishing and shipping, and the small two-man dories launched from trawlers have to be careful to avoid being run down—but radar helps in these cases.

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Clockwise Circulation of the N. Atlantic

All currents when they lose speed become drifts. This happens to the Gulf Stream at about 45°W. But when it emerges from the Florida Straits it moves 65 miles a day and has a temperature of c.84°F.—but this it does not retain. The students would be told that this drift breaks up. One major branch travels north-westward past the northern shores of the British Isles towards the Arctic regions of Norway, and the other, moving to the latitudes where the N.-E. Trades prevail, becomes the Canaries Current and is driven equatorwards by the Trades. This is a cold current. The students should at this stage be able to give a reason for this. That is that when surface water is blown away by the N.-E. Trades, there is an upwelling of cold water from the ocean deeps.

The clockwise circulation of N. Atlantic currents is completed when the Canaries Current merges into the N. Equatorial Current. Before proceeding to the currents of the S. Atlantic the teacher might elicit from the students why the circulation is clockwise in oceans north of the equator.

The South Atlantic

The class should therefore be able to say why the circulation of currents in the S. Atlantic is anti-clockwise. Much information will, in a like manner, be elicited from the class. They should know that the S.-E. Trades blow surface water equatorwards from the regions of c.30°S., producing the S. Equatorial Current, which, encountering the shoulder of Brazil, is deflected along the E. Coast of S. America as the Brazil Current until it reaches the realms of the N. Westerlies. From here it is in the main driven eastwards. In its easterly movement this water receives a big impulse from the West Wind Drift, that sweeps the southern oceans in its almost unimpeded course from west to east, driven endlessly through space and time by the twin forces of the N. Westerlies and the earth's rotation.

The W. Coast of Africa now impedes the flow of some of this cold water eastwards, which thus flows northwards and is cooled further by the blowing away of surface water by the Trades and a consequent upwelling of cold water from the ocean deeps. This is the Benguela Current.

Application

Application could include questions on currents as they affect climate—such questions have many interesting ramifications.

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Other questions could be set on how far ocean currents impinge upon man. A purely academic treatment of the subject might sometimes be required of students in Standard XI or in the higher school certificate class, but even here the human effect should never be ignored.

The teacher would naturally insist on fully-labelled sketch-maps which would not be elaborate but explanatory in themselves, and to the text of their answers. Colours in sketch-maps need not be ruled out. Coloured pencils do make a difference when colours are placed in juxtaposition to ink.

Concluding Remarks

Numerous interesting facts of this important subject will appeal to the teacher, whose problem will be: 'How much may I exclude with safety?' Not: 'How much can I include?' For example, in the Indian Ocean, the currents north of the equator follow the changing monsoon winds and so are different from those of other oceans. The Bay of Bengal and the Arabian Sea, with the peninsula of India in between, plan, as it were, a régime of their own. And if the Gulf Stream moves as a powerful force through the waters of the N. Atlantic, larger in its flow than many hundred Mississippis, then in the Pacific, old cradle of the moon, as some have considered it, the Kuro Siwo giant-wise sweeps the vast reaches of the largest ocean, with a volume that has been estimated as being 5,000 times that of the Mississippi.

Then there is the romance of the *Kon-Tiki's* voyage across 4,300 miles or more of the Pacific, as it was blown by the S.-E. Trades along the S. Equatorial Current in an attempt by those who manned her to vindicate a debated theory. Then there are the Galapagos Islands, rich storehouses of the past, with their curious anomalies of fauna and fabulously rich deposits of guano. Their situation on the verge of the cold Humboldt Current, where it touches the equator, affords much interest to the geographer.

There is all this and more absorbing material for teaching and study, so that, at the end, the cry is always: 'How much can I tell?' Not much compared with what the youthful, questing seeker might independently cull of the mystery of the moving seas.

A. L. Glynne-Howell

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The Need for a Geography Room

MENTION THE NAME GEOGRAPHY ROOM to the headmaster of any school and ten to one the look one gets seems to say: 'What nonsense! No one requires a separate room to teach geography.' It is unfortunate that this important subject should receive such step-motherly consideration, for there is no denying that if the subject is to be taught successfully, it must be done in the proper atmosphere, which can only be acquired by excluding all extraneous material from the room in use. By and large the subject itself is usually treated with small respect owing perhaps to the fact that pupils find it comparatively easy to pass in it. Such being the case, it is natural that a teacher is expected to make do with whatever is available without asking for special arrangements and apparatus. Nothing could be further from the truth. Is it any wonder then that most school-leaving children have nothing more than a bookish, superficial knowledge of the subject? Like science, geography has much within its scope that cannot be adequately handled by utilizing a classroom where other subjects are also taught. Too long has this subject been considered a 'general' one, thereby denying it its special characteristics, and, of course, a separate room. Now, as never before, does geography require a well-equipped laboratory. In the ensuing paragraphs I shall try to clarify the dire need for a Geography Room in every school, and append a simple plan for setting up one.

Five Reasons for having a Geography Room

Broadly speaking there are five basic reasons why there ought to be a Geography Room:

(1) *Atmosphere.* Geography is an inspirational subject, and as such must be taught in an air that arouses interest, stimulates the imagination, and inspires. I cannot understand how any teacher who is really devoted to this subject can remain content to teach it in surroundings that are anything but 'geographical'. One might as well approach biology or chemistry with non-existent experiments that have been described verbally but never actually demonstrated. It just can't be done. Yet it *is* done in geography. Having a room set apart for the subject, and reasonably well equipped, is half the battle won. When children enter such a room, the sight of the various apparatus, maps and pictures is enough to arouse their interest; for is there a child who is not by nature curious to know more about something he sees for the first time? And is not this a truly psychological approach which takes full advantage of a child's curiosity? Here then is an opportunity for even an average teacher to exploit. A

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subject that can often deteriorate into a glorified lesson in literature is at once saved from this abyss, while the pupils react in a manner that is sufficient to warm the stoniest heart. So, for the sake of the right atmosphere, let schools have a Geography Room. In one school that I know of, the pupils look forward to their geography lessons with an enthusiasm generally unheard of elsewhere, simply because it means another forty minutes in the Geography Lab (as it is here called).

(2) *Time-saving.* This point is, perhaps, self-explanatory. However, I think it would be proper to elucidate a little further. If a Geography Room is correctly set up and maintained, a teacher can locate a required map, model or picture within a few seconds. In most schools where geographical apparatus (including charts) is stored in a room common to other subjects, it is almost impossible to lay one's hands on a much-needed teaching-aid, simply because there is a merry mix-up. Teachers frantically wade through mounds of other material before locating what is wanted; and more often than not they do not find the article. And all this time the class is waiting—not too patiently either! Such would not be the case if a separate room were provided. In addition, there is the danger that apparatus might be unknowingly manhandled, as a result of which a loss is incurred. After all, teachers too are human! Now all this could be avoided by having a room used exclusively by geography teachers. It saves time, money, and frayed nerves!

(3) *Safety of Apparatus.* Wherever the subject has to be taught in an ordinary classroom, at some time or other it becomes necessary for the teacher to bring from elsewhere such apparatus as a globe, projector, or epidiascope. As careful as one might be, there is always the hazard of the apparatus being accidentally knocked over. In a Geography Room this is minimized to a large extent for movement is reduced—a distinct advantage and a sound argument in favour of having a separate room for the subject.

(4) *Special Facilities.* Geography, if taught competently by a dedicated teacher, will involve a large amount of work which cannot be adequately undertaken in an ordinary classroom. This happens because in all cases the teacher and the pupils find it necessary to use materials and apparatus which cannot be conveniently stored in the usual class cupboard. Such being the case, the teacher does not include this work in his normal syllabus, either because it is impractical to convey the apparatus whenever required or because there are insufficient storage facilities in the classroom concerned. In both cases it is the pupils who lose. The work I refer to includes:

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(i) The drawing and constructing of maps, diagrams, etc. from material supplied.
(ii) Consulting large-scale maps, charts, plans, working models.
(iii) Observation of specimens.
(iv) Modelling: an essential part of the syllabus, if the subject is to be real to the children.

Many readers will probably argue that a great deal of the work mentioned here can be done in the classroom. To them I say: 'Yes. But is it the right approach to geography?' A century ago, science too was treated this way, till practical experience proved that a laboratory was the right place to impart scientific knowledge. It is time for all schools to realize that the same applies to geography.

(5) *Proper Storage.* One has only to visit a school that does not have a Geography Room to realize the importance of this point. In the majority of cases, whatever geographical equipment there is, is haphazardly tucked away in a shelved cupboard or else is left on a so-called map-stand. More's the pity. It is no wonder then that every new academic year sees a fresh order for maps and charts being placed. Much of this could be avoided by providing a separate room for the subject. In addition to the economy gained on a reduction of orders, it must be remembered that there is a right (and a wrong) way to store geographical equipment. Ask any science teacher and you will get the same reply regarding scientific apparatus. Unless one has facilities for this, how can the equipment be correctly stored and maintained? So let's have a Geography Room—even if it is moderate in size, and equipped with the bare essentials only.

A word might here be said about the location of such a room. If possible it ought to be a corner room, but situated where there is ample light. Any dark, dingy room, unwanted by others, should not be accepted. After all, no physical education teacher or science teacher would dream of doing his work in such a place. So why should it be expected of a geography teacher?

I have dealt at length on the need for such a room, and can only hope that the headmasters who read this will be influenced to the extent that, in the next plan for improvements in their schools, they will endeavour to provide a good Geography Room.

I now append a simple plan for a Geography Room (p. 16).

Notes on the Plan

(1) In addition to the wall blackboard, there should be a movable squared blackboard for drawing graphs and diagrams,

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and for drawing outlines of continents from stencils. The map-stand should be light enough to be moved easily.

(2) A picture rail runs just above the tops of doors and windows, all round the room, except for the whitewashed patch which serves as a screen for projecting pictures.

(3) Lower, there should be two battens, about 14 inches apart, used for displaying pupils' drawings, maps, etc. The exhibits should be mounted on cardboard or thin plywood.

(4) There should be some quick and easy method of darkening the room when it is required for projection purposes. Perhaps spring blinds (black) could be installed. The walls should be colour-washed, except for the white patch on the South wall.

(5) The map cupboard should contain about 40 maps on rollers, hooked above and below, hanging diagonally, so that titles are clearly visible. The globe might be placed on top of the cupboard.

(6) No hard and fast rule can be laid down as to what the apparatus cupboard should contain: much depends on what the teacher requires for the particular course being followed. However, the following are suggested: orrery, mapograph, wire globe, circular blackboard protractor, and ruler ($2\frac{1}{2}$ft. long), small stencils for drawing outlines of continents in exercise books of pupils, tellurion, celestial models, simple survey instruments (tape and chain, drawing boards, poles, plane table, prismatic compass).

(7) An electric plug-point, water-tap and sink might also be installed.

(8) The projector cupboard should be used for storing: the 16mm. sound/silent machine; the 35mm. filmstrip/slide projector; the epidiascope; films (in cans), slides, pictures; also spare parts, lubricants, soft linen for cleaning the machines, useful tools (screw-driver, hammer, pliers, wire-cutter).

(9) A cupboard for reference books may be omitted if the school library has a separate geography section.

(10) With regard to the furniture, the following may be of use: pupils should have tables and chairs, not desks; the tables should all be of one size to enable them to be placed together to form one large table for studying large maps or for group work; several strong, flat, glass-topped tables (with electric light fitting inside for tracing) containing large drawers to hold maps, may be provided; the teacher's desk should contain a tracing table.

(11) Some provision for weather observation and recording should be included.

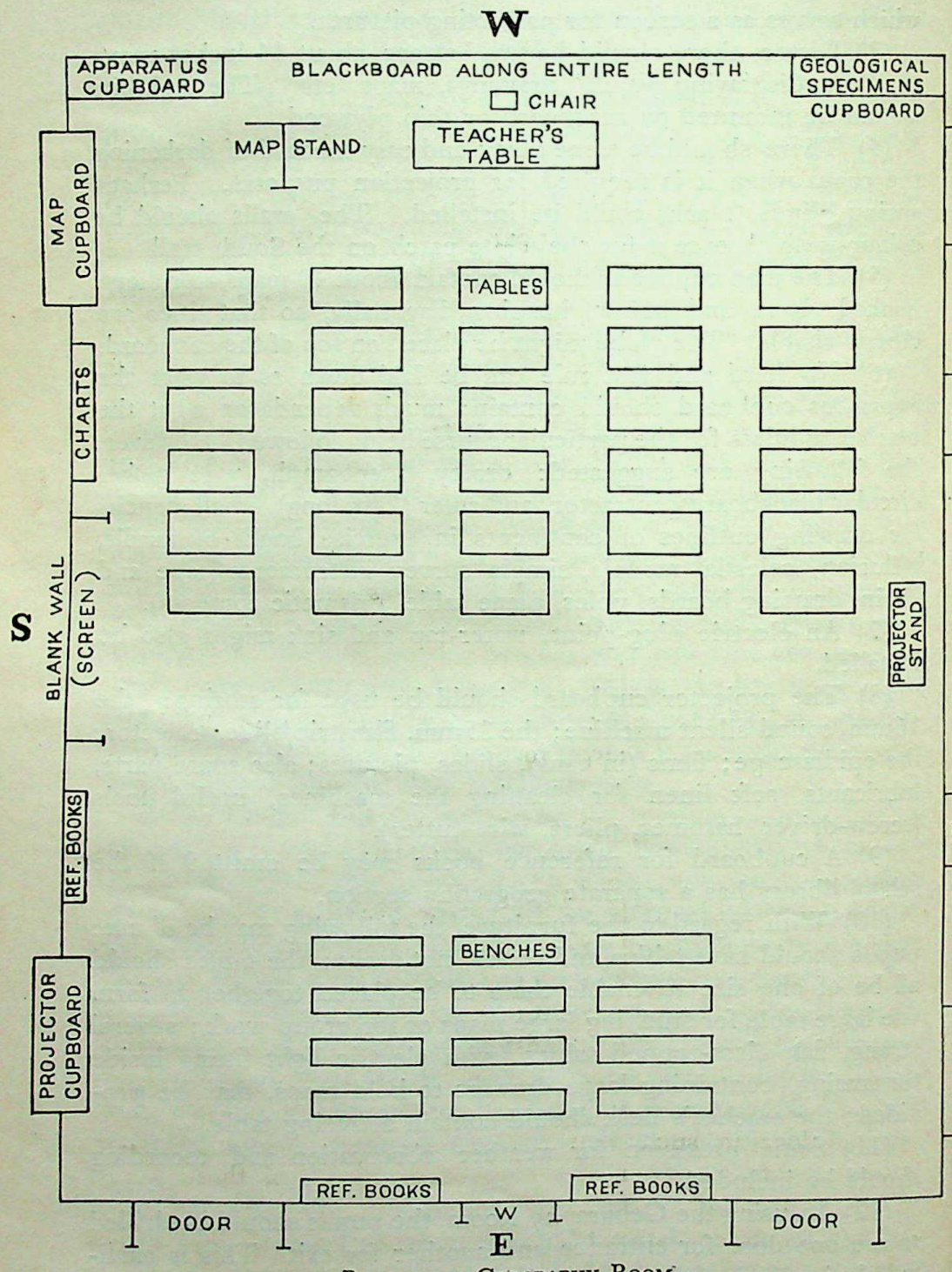
(12) In using the Geography Room, the pupils should be drilled to use one door for entrance and another for exit. This is particularly important when consecutive periods are taken in the room.

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The above plan is by no means complete or beyond criticism, but it will probably be sufficient to start with and can later be modified to suit special requirements.

A. C. McPhail-Luke



PLAN FOR A GEOGRAPHY ROOM

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The Place of Maps

TO MANY BOYS AND GIRLS mapping is easily the most interesting introduction to geography. The reason may be that it is practical. There are no long lists of names to be learnt and no difficult theories to be understood. Once a few fundamentals are grasped, map-work is a branch of geography in which the pupil can to a large extent teach himself.

History may not be all 'chaps' and geography all 'maps', but in the discussion of any geographical topic maps are necessary in order to indicate position, relative distances, and area. Without maps there can be no accurate imagination and comparison, and without imagination and comparison, the study of geography has no value.

If at the end of the school course pupils can read and use maps—not merely the simple maps to be found in school atlases and textbooks but the larger and more detailed ones which are used in everyday life—and take pleasure in consulting them, their teachers may consider themselves very successful. Thus a properly graded course in maps is an integral part of the geography course.

The First Map

The child's first 'map' may be of things he sees around him every day in class—his own desk and chair, the class cupboard, the teacher's desk, the blackboard, the flower vase. These maps will therefore take the shape of rectangles, squares and concentric circles. At this stage the difference between a picture and a map should be stressed. Later, a map of the classroom with all these objects filled in could be attempted. Incidentally, this map of the classroom should be called a 'map' rather than a 'plan', because otherwise the child might consider his next map as something new and unknown to him.

The children could have a little fun over the map drawn by the teacher on the blackboard. A child could be asked to mark his own place on this map. Some others may be asked to chalk the way they follow to reach the teacher's desk. Another could mark the window that is closest to him or bring objects which are found in places marked with a cross, and so on. The boy whose desk is marked with a cross may be asked to place a map on the floor in such a way that the direction on the map coincides with the floor plan. Many variations of these games could be invented by the ingenious teacher.

This common map-notion of the child should be further developed and directed. The drawing of a map of the neighbouring

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room could follow. An idea of directions is essential, and an arrow to show North should be drawn, but as these are the child's first maps they need only be approximations to scale. The only thing that should be mentioned is that as more is to be put on a sheet of the same size as before, everything should be made smaller.

The study of direction can take the form of simple team games. Following simple instructions of pointing to given directions, naming articles and classrooms that lie in certain directions, shutting windows that lie in one direction, standing in certain corners, kneeling in others, rubbing noses with children and sitting in certain corners, not only give great enjoyment to the children but also provide ample practice, thus helping to fix directions in the minds of the young.

Taking the children for an actual flight over the school building and its surroundings would be a wonderful approach to map-making of the school and its vicinity, but unfortunately this ideal method is not within our reach.

All the same, the idea of going for a flight in an aeroplane and watching the earth below will surely appeal to the children's imagination. If their interest is once aroused, the introduction to the idea of such a map can be easily made. The pupils could be asked to draw a picture of their school building and its surroundings, including any well-known landmarks in the vicinity, as they think it would appear from an aeroplane.

'From School to the Nearest Post Office', or 'My Way to the Bus-stop', or 'How I Come to School' (for a pupil who stays in the vicinity) could be very well illustrated by individual pupils in little maps.

Occasionally the whole class could jointly map something on the blackboard: the route they would follow to reach a stationer's at the corner, for example. With the teacher's help, roads crossed, buildings on the way, the traffic signals, and statues of important personages, could all be marked by simple symbols. Thus a few conventional signs for roads, bridges and temples could be introduced into the esson.

Simple Physical Maps

After a couple of lessons with the globe whereon the children notice the relation of their country to the continent and the world, they may be helped to read simple physical maps.

At first sight the map may appear a maze of complexities, but soon the pupils start to regard it as a challenge, a new puzzle which becomes more fascinating each time they look at it.

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A knowledge of scales now becomes necessary. The pupil should understand that if the map of a classroom is being drawn, you may use a 1 inch = 4 feet scale, but that a map of the vicinity would require a 1 inch = $\frac{1}{8}$ mile scale, and in the case of a map of a continent the scale may be 1 inch = 500 miles.

This is an age at which pupils love to collect pictures. Picture-maps can therefore be used to advantage at this stage. An outline map of India, for example, may be used and the most important features represented by pictures. Appropriate illustrations of trees, animals, cultivated crops, people and their homes can be cut out and pasted on the map. The pasting of actual agricultural products such as grain, cotton or tea on the map may be an age-old method, but is still very popular and can be followed to advantage. From such simple picture-maps the next step is to a simple and brightly coloured physical map. Colour pencils are very handy for this purpose. The lowlands are represented by green, the uplands and the intermediate areas by yellow, and the mountains by brown.

Mapping of known things should precede that of things unknown and maps of areas should precede those of lines. Mapping of mountainous areas, for example, should come much before isotherms, isobars and contours. Sometimes children repeat parrotwise that 'the 80°E passes through the Deccan' without in the least understanding what this means. To make sure that the pupils have grasped the fundamentals, short questions on the map could be asked. These are answered in a spirit of fun, as a child loves to be the first to find the correct answers.

1. If you were to go from Bangalore to Madras, would the journey be up-hill or down-hill?
2. 'The plain of the western coast is broader than that of the east.' Is the statement true or false?
3. Point out two high hills in South India.
4. Which of these mountain ranges is higher, the Kirthar or the Aravalli? Why?

These are only a few of the many questions that pupils can answer with their knowledge of the significance of major colours on a map.

At this stage the chief point to make clear to the children is that the 'top' of a map is usually the 'north'. By this time 'top' and 'bottom' should be dispensed with altogether in relation to maps. A living interest in directions can be created by bringing a large-sized compass to class. The pupils could be allowed to examine it. The major points of the compass and the directions of given objects in class can be found. This work should be

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supplemented with stories of the importance of the compass to travellers lost in the desert or to sailors at sea.

Map-making in the Senior School

What sort of maps are the senior pupils expected to make? No experienced teacher will advocate the map-making exercise in which the pupil reproduces printed maps down to the last minute detail. Girls in particular tend to spend far too much time in drawing elaborate and artistic maps which are painfully neat. Such maps may be a useful standby for exhibition when there are visitors in school, but they defeat their own purpose, for the pupils get so absorbed in the artistic side of the work that its geographical aspect is forgotten.

In the upper classes, diagrammatic sketch-maps are at all times to be preferred to detailed maps. Pupils should be able to express themselves in maps, a form of geographical shorthand. These sketch-maps should be drawn rapidly and boldly and be as simple as possible. Too much stress should not be laid on small indentations of the coastline. Is it at all necessary for a pupil to memorize the coastline or the boundary of a country? Since the atlas has far more information than any child can possibly remember, a sketch-map should emphasize only the salient features. A rainfall map of India, for example, may show a large number of isohyets all over the country: perhaps isohyets for every 5 to 10 inches of rainfall, but the simplified sketch-map need only show the really significant lines for 20, 40 and 80 inches.

Pupils should not spend hours in copying the outlines of the continents under study. Good outline maps are available at a cheap rate in the market. These could be used to advantage and the children could fill in the required details. Such map-work should be followed by practical exercises providing opportunities in making geographical conclusions. As soon as the physical facts regarding condensation have been learnt, the pupils may be set to work at a simple set of exercises to determine relationships, e.g., In June, is the air over the Arabian Sea about the same temperature as the air over peninsular India? Under what conditions will the on-shore winds drop their moisture? Are there any highlands which will act as barriers and force the moisture-laden winds to rise? How will this affect (*i*) the west coast? (*ii*) the Deccan? Such exercises, however simple, give the pupils a chance to think for themselves. Later on they may get so accustomed to the use of this shorthand of geography that it becomes almost second nature with them to illustrate a written statement by means of a map or diagram.

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Pupils who are thus trained in attention to detail and in accuracy of thought are on the whole less likely to make blunders in the examination room. 'The Deccan gets less rain because it is to the right of the Western Ghats. The west coast gets heavy rain because rain comes from that side.' Pupils who make such statements are undoubtedly not familiar with reading maps and stating in words the precise information which a map conveys at a glance to the trained eye.

It is extraordinary that a vast number of people never learn to read a map. Most of us have heard of the adventure of three soldiers who lost their way and found what they thought to be a map. They followed the red lines marked thereon, believing them to be roads. We are not told where they landed ultimately, but we do know that their 'map' turned out to be a chart of the blood-vessels of the human body!

The Use of the Globe

As the earth is a three-dimensional body its accurate representation on a flat surface is not at all easy. Sometimes children find it difficult to realize, for example, why flying over the North Pole is the shortest way from Russia to North America. Others wonder how the shortest way from Canada to Japan can be across the Pacific when the two countries seem to be so far apart in the atlas. Such misconceptions on the part of the pupils can best be avoided by frequent use of the globe.

When pupils are being introduced to the study of a country, it is always advisable to show them the relative position of the country on the globe before it is shown on the map. They should be led to realize that the map is but 'the skin of the globe'.

The globe is also of very good use in introducing the pupils to those portions of geography which are concerned with the earth as a whole and its movements in space. If the globe is not used adequately the pupils continue to have a hazy notion concerning latitude and longitude, and about the phenomena dependent on the earth's rotation and revolution, particularly seasonal changes and the varying length of day and night. Again, topics like trade routes by sea and air, which are concerned with the whole world, can be treated much more clearly and accurately on a globe than on a flat map.

True it is that we cannot provide magic carpets to convey students to the various regions of the world, but the globe must carry on its surface, to the mental eye at least, a world of living pictures. We require more than mere statements like 'Rangoon is the capital of Burma' and 'Lahore is situated in the north'.

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The name of the place should connote a definite portion of the earth's surface with an entity of its own. In the lower classes these pictures of the world may be faint, but later every detail can be seen with increasing boldness. But always the whole globe is our canvas, the whole world our field.

The printed globes have their shortcomings too. They are usually too small for our classes and merely reproduce atlas maps representing political divisions. If globes showed the various important aspects of geography such as physical features, climate, and natural vegetation belts, their utility value would increase immensely. But since such globes are not available in the market, a slate globe with important parallels and meridians and the outlines of continents marked in white proves very useful to the teacher. Such a globe should have a diameter as large as possible, at least of 12 inches, and should be suspended from the ceiling so that it can be easily manipulated. In schools where there are no special geography rooms, suspended globes are out of the question. In such cases, the teacher has to make the most of the printed globe and wall-maps that can be easily carried from classroom to classroom.

The pupil's attention is less distracted when the geographical features mentioned by the teacher can be readily seen on a wall-map. This is particularly useful in comparative studies. A couple of maps illustrating such factors as physical, climatic and vegetation features could be displayed side by side and essential correlations could be brought out. The simultaneous display of maps of India showing relief and rain from the south-west and north-east monsoons, for example, would provide the teacher with a very effective means of illustrating the climate of India.

Again, on the large-scale wall-map the distribution of rainfall, vegetation, population, etc. is strikingly shown. When the figures cannot be read, the colouring alone is often sufficient to show the main facts. One glance at the population map of Asia, for example, is enough to impress the pupil with the remarkable contrast between the south-east of the continent with its enormous population and the vast, less densely populated north.

It is good to leave a wall-map on view for several days, so that whenever pupils enter the classroom they see the map and thus subconsciously absorb a good deal of the information.

When buying wall-maps, preference should be given to large maps that do not contain too many details and that can be read by pupils at the back of the class. A simple political map with boundaries of states, capital cities and other towns, for example, is to be preferred to an old-fashioned political map on which

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the mountains are indistinctly marked by hairy lines which are often rightly nicknamed 'caterpillars'.

It would be very helpful if a map had at its foot a small inset referring to a single geographical factor. If a natural vegetation map of India, for example, had an inset of a map representing the distribution of rainfall in India, good comparison and synthesis could be effected.

Correct Phraseology

Sometimes we teachers make the mistake of thinking that children learn only the things which they are told to learn. We tend to forget that suggestion plays a very important part in teaching. By its size the map is insistently teaching all the time that the things of which teachers speak are very small. Again, maps are partly to be blamed for statements like : 'Ceylon lies at the bottom of India', 'the River Nile flows up into the Mediterranean' and 'the south of India is below the Vindhya Mountains', for by convention, north is placed at the top of the map. Again, unless children are constantly corrected in the initial stages they never learn to use correct phraseology.

Wall-maps may be called 'the tools of the geographer' but are insufficient for teaching since they require only visual observation. Children are more eager to be 'doing' things rather than to be merely seeing things. And do not children learn as much, if not more, by hand as by eye? Drawing of maps gives them an opportunity to exercise their motor faculties and keeps up their interest in this subject with appeals to their adventurous spirit.

The final test of any study of map-making is to see if the students can make their own maps accurately from a given description. If that is expecting too much at the high school stage, they should at least be capable of intelligent reading and interpretation. If the pupils form a habit of 'looking through' the map and seeing the real things that the symbols stand for, they will understand the real meaning of distance and directions.

MANI D. ENGINEER

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Geography in a New Age

It is a platitude to say that we live in times of rapid change, times when the tempo of change is much greater than at any period in history. Scientific and technological developments have achieved revolutions in travel, in oral and visual communication, in synthetic substitutes for natural substances, in the harnessing of nuclear power, and in capacities for human and material destruction.

The advent of the scientific age has emphasized the need for increased numbers of suitably trained men and women, and considerable amendments in educational facilities are being made to meet this need. But the demands of a changing world require adjustments in the outlook and content of all work done in school, not least in geography. What are the new factors which suggest that some reorientation and some rethinking may be desirable in education generally?

The increased tempo of life shows not only in the speed with which news is transmitted by telephone and radio but also, more important, in the rapidity with which ideas may be propagated. The printed word is losing its power as a means for the dissemination of ideas and its place is being taken by visual media. The cinema and television are the new vehicles for exporting culture and defining standards of value as well as for conveying information and instruction. Their function is pervasive and all-embracing because they ignore the barriers of language and thereby take a step towards unifying the world.

Interdependence of Nations

The increasing interdependence of the nations of the earth is seen in the increasing transfer of a widening range of raw materials. No country today, not even the richly endowed United States or the Soviet Union, is self-sufficient. India depends on heavy imports of food and raw materials. At the end of 1956 transport in Western Europe was restricted or disrupted for weeks through the cessation of supplies of petroleum from the Middle East, which produces only about 15 per cent of the world output.

The rapid advance in nuclear physics brings with it threats to the well-being of the whole world. Apart from the inconceivable folly associated with atomic warfare, the carrying out of nuclear tests seems to produce results which can have deleterious effects on peoples and organisms far removed from the test site. The radioactive content of the ice laid down in a Swiss glacier in the year of Hiroshima is higher than that for preceding and succeeding years.

Increasingly man is learning to co-operate all over the world. National boundaries have little significance in the operation of

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the Postal Union or the Meteorological Service or in the little publicized activities of branches of the United Nations Organization such as the International Labour Office or the Food and Agriculture Organization. Through voluntary effort as well as through the United Nations great strides have been made in the control of the most international visitation—disease. Epidemics can usually be restricted to their sources, infant mortality has been greatly reduced everywhere, and in India during the first half of this century the expectation of life for a man has been increased by thirteen years.

For most people the truth of the shrinking earth is brought home most vividly in the development of astronautics and the speed and safety of air transport. In 1919 Alcock and Brown flew the first plane across the Atlantic; today, only thirty-eight years later, eighty-four commercial planes cross the same ocean every day. More visitors now enter New York by air than by sea, and before long aircraft weighing as much as the first *Mayflower* will be crossing the Atlantic. London is now one of the greatest passenger ports in the world, and from it New Zealand is only forty flying hours away. The launching of earth satellites brings inter-planetary travel within the bounds of possibility.

Preparing a New Generation

Facts like these could be multiplied, and they demonstrate that we have entered a new era in which a narrow, nationalistic outlook must give way to global concepts. As Professor David Linton told the Geographical Association of Great Britain in January 1957: 'Mankind must be made more aware of the world it lives in, its rigorous limitations and its limited possibilities. Above all it must be assisted and persuaded to think of the world as a whole.' Today technological and scientific developments are taking place at an unprecedented speed, increasing man's knowledge of the earth and causing modification in his environment, and since these aspects lie at the heart of all geographical study, the geography teacher must consider actively and immediately what steps he should take to prepare the present generations of pupils for their new responsibilities as citizens of the world as well as of a nation. Attempts might be made on a threefold task:

1. To ensure that pupils leave school appreciating and understanding ideas and facts about the geography of the earth as a whole.
2. To see that they have had opportunities to think about and discuss the geographical problems involved in a global outlook—the 'rigorous limitations and the

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limited possibilities' which the earth imposes upon mankind.

3. To ensure that pupils leave school aware of the pitfalls associated with the popular dissemination of information and ideas, and know where they can secure accurate facts.

This gives rather a different slant to the geography we teach, particularly, perhaps, in the last year of the secondary course. It is 'applied geography', geography for use, the geography which we hope will be employed by pupils for better understanding of the modern world and the part they are to play in it.

If this is so then consideration must be given to the content of the geography to be taught and the method of teaching it. Some years ago M. C. Nokes in his book *Science in Education* was courageous enough to suggest that there were five fundamental aspects of science which every educated person in the country ought to know something about. Similarly, may we venture to suggest that every citizen should be sufficiently educated geographically to understand something of the following five aspects:

1. The distribution and growth of the population of the world.
2. World food resources, standards of nutrition in different regions, and the geographical aspects of disease.
3. The distribution, exploitation, and transport of raw materials.
4. Power resources, present and potential.
5. World transport systems and their relationship with India.

Such a list may shock the academic geographer for it contains no mention of the basic aspects of the subject such as geomorphology, climatology, and the regional concept. But in proposing these aspects there is no suggestion that the fundamentals be neglected, rather that they will be brought out all the more strongly by being *applied*.

The Human Angle

By way of example let us consider the geographical background to the problems which underlie Egyptian economy. To arouse interest, we start from the human angle—the Egyptian peasant, what he is like, and the kind of work he does. Then we should note that there are twenty-two million people in Egypt, which gives a density of 1,500 a square mile. The amount of cultivated land per head of the population is 0.28 acres. Egypt has few resources other than the land and the labour of the people, and, while the sale of the chief commercial crop—cotton—

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permits purchase of some foreign wheat, most of the country's subsistence depends on home-grown food. The average daily consumption of food per head amounts to 2,340 calories, which is fifty calories below what dieticians consider a basic minimum for those climatic conditions. The people therefore are undernourished, and the situation worsens progressively because the population increases by half a million every year. The essential need, therefore, is for more food either from at home, which means more land under cultivation as well as better yields from the existing crop-land, or from abroad. Here the normal features of Egyptian geography, its structure and relief, the soil and hydrology, the climate, are relevant. More cultivated land waits on more water for irrigation, additional control of the Nile, and improved methods. Here is regional geography but with a new slant which stresses the world relationships of the region.

'Resources' geography has long been a feature of school courses, but in the new approach it would be treated from a global and not a regional viewpoint. Suppose the subject were 'petroleum'. The aspects which could receive attention might be the *relative* significance of the chief producers shown graphically, the situations and geographical features of the producing areas, the requirements of consumers and the chief importers (Figure 1), means of transport by land and sea, oil-refining, industrialization, standards of living, and other sources of power. Much variation is possible here, but the aim would be to present a world picture, not a regional one.

The Air Age

The aspect of global geography which calls most obviously for inclusion is 'Air Transport', a very big subject which cannot be fully considered here. For purposes of illustration let us take two facets of the topic:

1. The Location of Airports.
2. The Orientation of Routes.

Features which might be included are:

1. *The Location of Airports*: The nature of the terrain, size of airfield relative to the type of aircraft, situation with regard to great cities, climatic aspects, altitude and atmospheric pressure relative to length of runway, sources of fuel, contributing means of transport, etc.

2. *The Orientation of Routes*: The air has no geographical frontiers, the troposphere and stratosphere, purpose (freight and passengers), limitations, choice of routes, great circle routes, intermediate land/sea surface, meteorology, etc.

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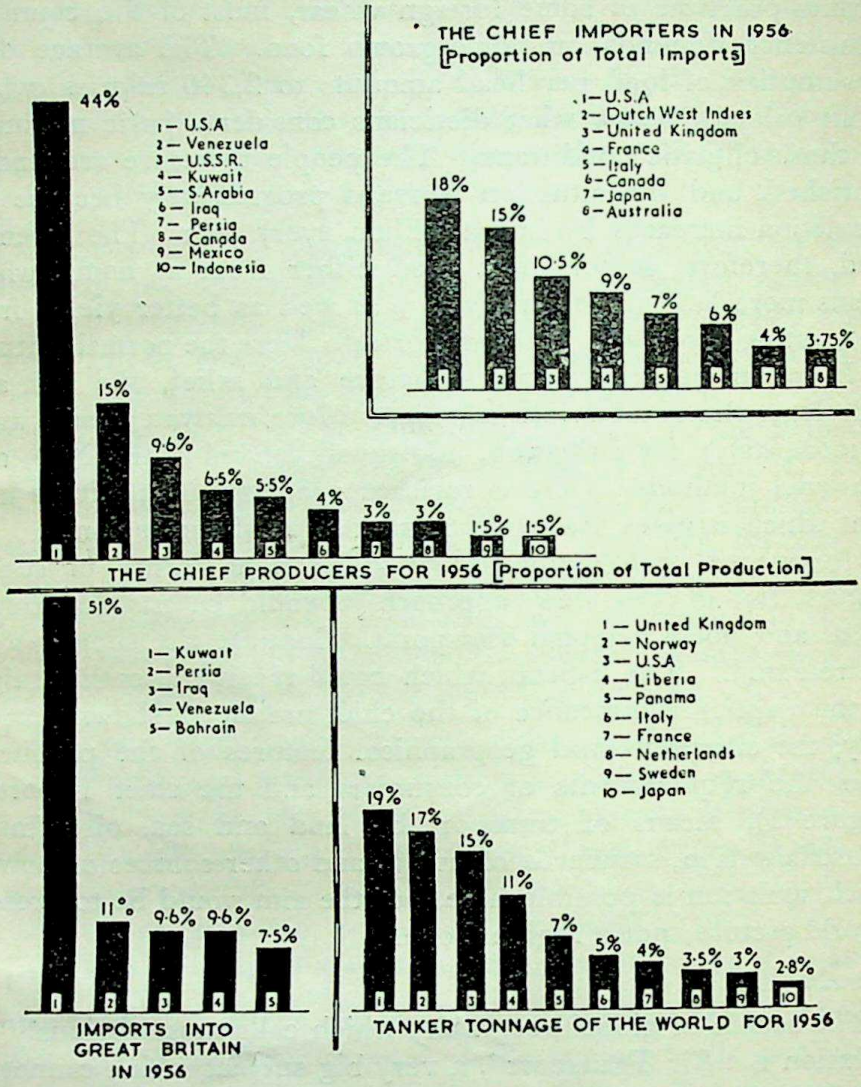


Fig. 1. Some Facts about Petroleum

The second example is of importance because it brings again to the fore the need to employ the globe and not the atlas map, in the classroom. It emphasizes too the changed significance of some parts of the earth. The North Pole lies on the direct route from Copenhagen to Tokyo, the Arctic Ocean has become a new 'mediterranean' sea, and obscure islands like Wake and the Cocos Islands have become important as intermediate landing-places.

Many other specialized uses of aircraft illustrate both the geographical and global aspects of this topic: in exploration—internationally organized as in Antarctica or less spectacularly in Canada—for topographical and land-use surveying through highly developed aerial photography, for the mapping of geology and prospecting by gravimetric and radio-active methods, for soil

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surveys as in Mesopotamia, for farming by dusting with insecticides, and in forestry for fire-fighting.

Having in mind the new concepts, the teaching of the geography of India might need some modification and reorientation. It may be desirable to give less attention to the regional aspects of the subject and more to the position of the country with regard to the import of raw materials, the relative significance of home-produced and foreign food supplies, India's place in the world as a manufacturing nation (and, incidentally, whether she has any advantages apart from the skill of her people and the capacity to work), world transport routes and India's connexion with them, and India's relationships with Commonwealth countries, Western Europe, and the United States.

A normal lesson on Northern China might begin with a sample study on a typical farmer near Peking and describe his work through the seasons, the crops he grows, method of irrigation, the relationship of his work to the soil, drainage and climate, his farmhouse. The new aspect could be introduced by mentioning the tiny size of the farm, which results from the large population of China and the pressure on the land, and the resulting low standards of nutrition. These are the aspects which have global significance. If the lesson takes the form of a comparison between conditions in North and South China the work can easily be oriented to include these fundamental facts. Or, pupils may be led to make fundamental discoveries for themselves by giving them data (or letting them look it up) such as total population, total area of cultivated land, rate of increase of the population, production of main food-crops, consumption per head, expectation of life, and the facts shown in diagrams. Even if the pupils do not make them they are useful and effective teaching aids for a teacher to make. (See Figure 2.)

Foundation for Special Study

To an increasing degree, the higher education taken by students includes some 'special study', usually of a vocational kind, such as engineering or commerce, catering or building, and the geography teacher is in a particularly good position to make his special contribution especially if he stresses the 'global' aspects. All technical subjects have important geographical aspects, and it is vital that future engineers, for example, should have a good background knowledge of the needs and character of the industry which they wish to enter. Much of this background is geographical, and for such pupils the later part of the geography course, while remaining true geography, ought to be

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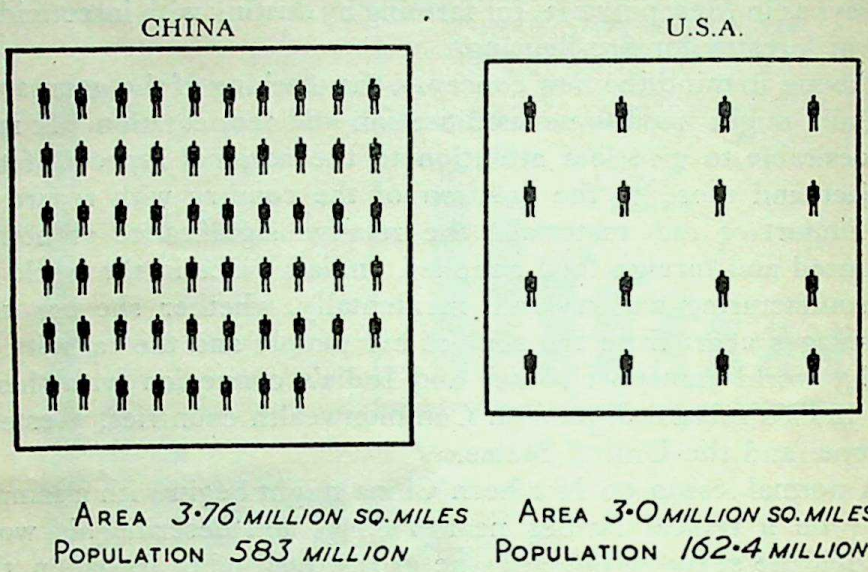


Fig. 2. COMPARATIVE DIAGRAMS

slanted towards the field of employment which the pupil expects to enter, and which determines his 'special study' after school.

Within any set syllabus, as every good teacher knows, there is room for much incidental teaching, teaching 'on the side', which often has significance far beyond the time spent on it; in fact it often does more good than material on the syllabus because it stimulates interest and thought. As suggested above, it should

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be quite possible to introduce into the normal regional work aspects which are also of global importance.

Underlying the views expressed in this article has run the conception that geography is a worth-while subject pre-eminently suited as a medium of real education for girls and boys of all ages and abilities. It is flexible, and adaptable to changing needs, and, resting on a basis of sound principles, it can provide a vehicle for the exercise of logical thought. Above all the subject provides a valuable body of knowledge which, well taught, can interest the pupil and prepare him to become a responsible citizen in a rapidly changing world.

The world today has become so complex, and events follow one another with such bewildering rapidity, that the ordinary person tends to withdraw, and takes the negative attitude that the professionals, the politicians, the scientists can look after things. It cannot be stressed too strongly that all modern developments are the result of human effort, and that man *is* master of his fate if only he will not abdicate from his responsibilities. Every individual should realize that in one way or another, he can exert some influence on the course of events for good or ill, and the geography teacher is in a favourable position to disseminate this important concept.

The Teacher

As in all discussion of educational topics, here we are brought back to the fundamental aspect—it all depends on the teacher. The quality of education depends not chiefly on equipment, buildings, or facilities, but on the quality of the individual teachers. Particularly heavy demands are made upon the teacher of geography. He needs to have a firm grasp of the basic principles of the subject and a sound body of knowledge. He needs to be widely read, especially in travel literature, and to be physically active so as to undertake field-work. He has to adopt all possible means to keep himself up to date. Above all he must be a person of wide interest, for much of the success of his teaching depends on his ability to handle material from related subjects and to integrate it and distil it for the benefit of his pupils.

Thus portrayed, the geography teacher sounds a paragon. It is a commentary on the high level of much of the geography teaching today that there are such people.

E. W. H. Briault and D. W. Shave

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Book Review

B. N. PHILLIPS, R. L. DUKE, and M. V. DEVAULT: *Psychology at Work in the Elementary School Classroom* (Harper, 1960), Demy 8vo, pp. xxiv+396, $5.

In his introduction to this book the editor says that the high qualifications of those who produced it make it of great value to all those concerned with the education of elementary school children. In the book there is a lot of interesting information, but much of it is, for the layman and the average teacher, obscured by a fog of statistics and technical language which is almost entirely unrelieved by attractiveness of style.

After reading through twenty-five pages of appetite-whetting introductions, prefaces and orientations the reader emerges into a section headed 'The Group in Classroom Organization'. A number of research studies are described in some detail. The purpose, method and results of the research are given. The kind of paragraph that is likely to overawe anybody but a specialist is: 'It may be noted that on the basis of the null hypothesis of no correlation, ar=0.218; thus significance at 5 per cent level corresponds to r=0.427. The statement of significance quoted for each r above was based upon the calculation of the standard error for that particular r.' Nevertheless, the descriptions of the research methods and the conclusions are interesting.

It was found that groups of high ability were the most friendly and that the efficiency of a group, as indicated by assessment of quality of work, co-operation and friendliness, is dependent upon the ability of members of the group and not upon their assertiveness. One of the implications of the findings was that competition does not necessarily have undesirable effects on inter-personal relationships.

The first part of the book, which deals with 'Classroom Organization and Interpersonal Relationship', includes sections on the judgement of teachers by students, the effect on learning of personal social anxiety, and the effect which the personality of a teacher has on his evaluation of student behaviour.

In the second part of the book, headed 'Pupil Behaviour and Learning', there are a number of research studies quoted which deal with the motivation of pupils. A section on 'Planning and Organizing Learning Tasks' contains one particularly illuminating piece of research on teaching the concept of area in geometry. In the final two sections, 'Providing Appropriate Pupil Activity', 'Assessing, Evaluating and Redirecting Learning', the research studies upon the effect of 'Teaching Procedures on Group Attention and Thought Processes in Lectures and Discussions' are valuable. We can conclude that the lecture method at universities is not ineffective but that frequent testing results in better achievement.

For the reader who is prepared not to be put off by specialist jargon and statistics there is much of value in this collection of research studies and in the conclusions that are drawn from them.

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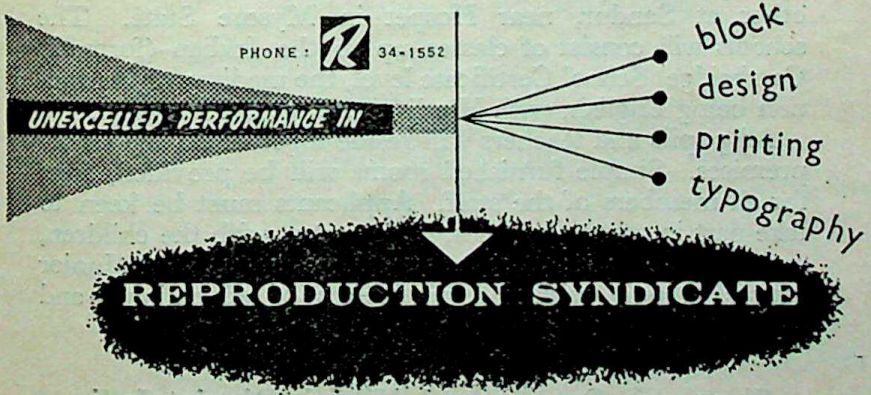
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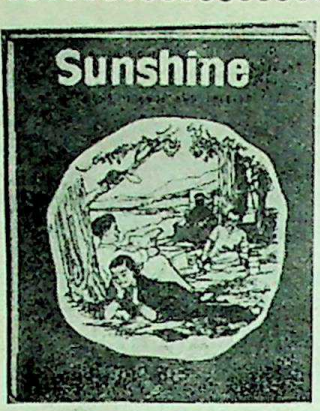
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FOR TEACHERS

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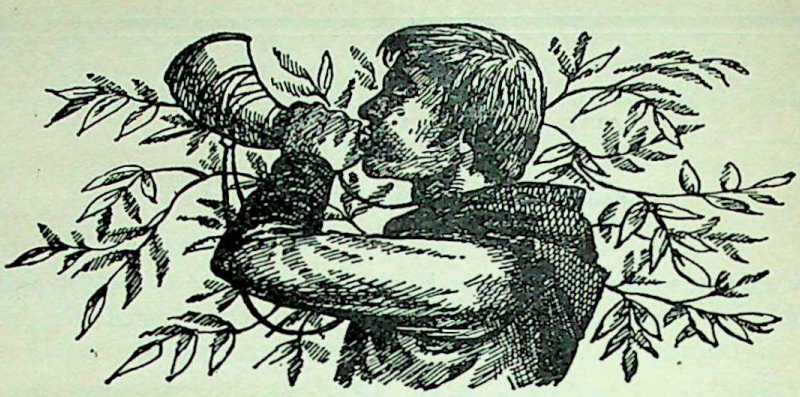
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TEACHING

A QUARTERLY TECHNICAL JOURNAL FOR TEACHERS

Editor: MARGARET BENJAMIN

VOL. XXXIII DECEMBER 1960 No. 2

Editorial

THE NEXT ISSUE of *Teaching* (March 1961) will be a special one on the Teaching of Hindi. This is a subject of interest to all schools in India for, if Hindi is to find its place eventually in the educational set-up of this country, it is the schools that must prepare the ground for it.

Articles will be welcome on any aspect of the teaching of this subject. For instance: when should Hindi begin; methods of teaching Hindi; textbooks in Hindi; how Hindi can be made a workable language; the place of Hindi in the school curriculum; availability of children's literature in Hindi; teachers of Hindi; building up a Hindi library; visual and other aids in the teaching of Hindi; Hindi as a medium of instruction. Any one of these topics as well as others would prove useful to our readers.

External Examinations in Secondary Schools in England and Wales

IN ENGLAND AND WALES the secondary stage of education begins at the age of eleven. About 90 per cent of children transfer at that age to separate secondary schools. The remainder stay in full-range schools where an attempt is made to provide the same type of education as in the secondary schools, as far as conditions will permit. It is the intention of the Government and the local education authorities that all children will be able to transfer to separate secondary schools by the early nineteen-sixties.

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Background of 'grammar' and 'modern' schools

At the age of eleven some children are selected to follow a strictly academic, or 'grammar' course. The remainder attend less academically inclined secondary, or 'modern' schools. Over the country as a whole about 20 per cent go to grammar schools, although in some areas the proportion is as low as 10 per cent, in others as high as 40, and in a few even more. The picture is further complicated by the existence of separate technical secondary schools in some parts of the country, and by a comprehensive organization in others, although even inside the comprehensive school the same separation of children into grammar and modern courses takes place. The general picture of 20 per cent grammar and 80 per cent modern is, however, fair for the country as a whole.

Only against this background is it possible to understand the present examination system, and especially the change of attitude towards examinations that has occurred during the past ten years. Until the end of World War II, only the grammar schools were interested in external examinations. They took the School Certificate and the Higher School Certificate examinations.

Special examinations before World War II

The School Certificate was designed for the average grammar school pupil who had worked reasonably well over a five-year secondary course. It was a group examination, the certificate being awarded only if passes were obtained in five (or sometimes six) subjects, which had to include English, a second language, and mathematics or a science. It was required as a necessary minimum qualification for entry to the universities or the teachers' training colleges. Many professional bodies accepted it as the necessary preliminary qualification for entry, and many employers, for example, banks and local government offices, made it a necessary condition for employment.

The Higher School Certificate Examination was a specialist examination taken after two years' further study. It was normally taken in two main subjects and two subsidiaries.

Post-war change of attitude

The educational climate after World War II was against examinations. An attempt was made to restrict them to those pupils who intended to go on to a tertiary stage of education at the university, the training college, or the technical college. Employers were to be encouraged to accept their employees on headmasters' recommendations, and pupils who intended to specialize in a subject were not to be examined in it at lower than specialist level.

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In furtherance of this policy, the General Certificate of Education was designed. The policy failed, but the G.C.E. remained, and indeed is flourishing beyond all expectations. As soon as it was started, employers began to demand it; professional organizations restated their entrance qualifications in terms of G.C.E. passes; and many headmasters were unwilling to allow their pupils to specialize until they had first passed their specialist subject at a lower level.

The new 'O' and 'A' level examinations

The General Certificate of Education is organized at two levels, namely Ordinary, or 'O' level; and Advanced, or 'A' level. It is a subject examination and can be taken at either level in any one or more of a wide range of subjects. The Ministry of Education Report (1957) lists 34.

The 'O' level is aimed at the reasonably good grammar school pupil after a five-year secondary course. Weaker grammar school pupils often take a further year to pass, and exceptionally able pupils often take it in four years, although they are only allowed to do so upon the production of a headmaster's certificate stating that this is educationally desirable. Many grammar school teachers think that the pass at the 'O' level is somewhat too high for the average grammar school pupil. Not more than half the grammar school entry (i.e., 10 per cent of the entire sixteen-year-old age group) pass 'O' level in five subjects.

The 'A' level is directed at the eighteen-year-old grammar school pupil. It is customary to take one, two, or possibly three 'A' level subjects. Local education authorities award university scholarships upon performance in 'A' level, many authorities being prepared to award a scholarship on a good performance in two 'A' subjects.

The 'S' level. An extension of 'O' and 'A' papers

In addition to the 'O' and 'A' level papers, Scholarship, or 'S' papers are set for the awarding of about 3,000 State scholarships to the universities each year. This is not an additional level. The papers are designed to be taken in conjunction with 'A' level. The standard of knowledge required is about the same, but the questions are designed to reveal good honours degree potential. They require a deeper insight into the subject, and a greater ability to organize knowledge than is demanded from the ordinary 'A' level candidate. Owing to the fierce competition that has developed for these State scholarships, there is a growing tendency to take 'S' papers only after three years in the grammar school sixth form, which means three years after taking 'O' level.

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Organization of school examinations

The conduct of the G.C.E. is in the hands of nine examining bodies. They are independent organizations, but derive their power in virtue of official recognition by the Minister of Education. In theory there is no reason why any other organization should not set itself up to examine at G.C.E. level. But in fact it could not do so, for without the Minister's recognition the examination would not be accepted for any of the purposes for which the examinations of the nine existing boards are accepted, and therefore candidates would not be forthcoming.

All nine examining boards are closely connected with the schools and the universities by their constitution. Their constitutions, however, vary. The London University and the Durham University boards are sub-committees of the governing body of their respective universities, and their decisions receive official ratification by the university. The Northern Universities Joint Board and the Southern Universities Joint Board, both of which serve several universities, are mainly composed of representatives of the universities involved, nominated by the university governing bodies. The Oxford Board, the Cambridge Board, and the Oxford and Cambridge Joint Board, are more loosely connected with their universities, but their universities are strongly represented on them.

The Welsh Joint Board contains strong representation from the Welsh universities, but also contains representatives of the Welsh local education authorities. The Associated Examination Board, which is an *ad hoc* body created at the end of World War II to cover the special needs of technical students, is composed of representatives of the universities, the local education authorities and industry. All the boards have representatives of the teachers on them, usually chosen through the teachers' organizations.

The boards normally work through a main committee and subject panels. Both teachers and universities are represented on the subject panels, membership of which is not confined to membership of the main committee. Teachers and members of the university are co-opted for their specialist knowledge, and close liaison with schools and universities is thus secured at all stages.

The examinations are further kept in close contact with the needs of the schools by the encouragement of criticism of the papers by the schools, and most boards have worked out machinery for dealing with these criticisms. Schools are also encouraged to draw up their own examination syllabuses, and the boards readily accept these syllabuses as alternatives to the main syllabus, subject to their suitability as to breadth and depth. There is the further safeguard that

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all schools are free to choose their own examining board, and a board that lost touch with the needs of the schools would soon find the fact reflected in its entry. The examinations of all boards are regarded as interchangeable for qualification purposes, and a student wishing to enter a particular university need not take the G.C.E. of the board attached to that university.

Such a system requires a co-ordinating body. Day-to-day co-ordination is obtained by regular meetings of the secretaries of the boards, but the co-ordination of policy, and the maintenance of standards, is obtained through the Secondary Schools Examinations Council, which is a body set up by the Minister of Education for the purpose. It contains nominees of the teachers' organizations, the local education authorities, the Ministry of Education, and the universities.

Increase in number of candidates

The number of candidates taking the examination has grown rapidly since its inception, as may be seen from the following table:

TOTAL NUMBER OF CANDIDATES

TAKING GENERAL CERTIFICATE OF EDUCATION

	'O' Level	'A' Level
1951	133,792	36,677
1955	231,422	53,991
1957	239,666	70,342
1958	271,862	77,503

The causes for this increase are complex. With the compulsory school life ending at fifteen, many grammar school pupils used not to stay at school long enough to take the examination. This early leaving is on the decline, and this is reflected in the statistics. The increasing tendency for entrance qualifications to university, training college and other organizations to be expressed in terms of G.C.E. is also reflected, for candidates frequently have to sit a second time to obtain passes in a subject in which they originally failed.

But the most interesting of all is the growing tendency for the non-grammar schools to enter candidates for the G.C.E. When the secondary modern school was in its infancy, it was fashionable to welcome its freedom from examinations. It has been found, however, that boys and girls will remain at school beyond the compulsory age of fifteen if given an incentive for doing so, and one of the biggest incentives is the opportunity of sitting for an examination which gives entry to a wide range of professional occupations. Moreover experience has shown that with the somewhat different approach to learning that obtains in the secondary modern school,

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secondary modern candidates pass subjects in the G.C.E. In 1951 the number of secondary modern candidates taking the G.C.E. was virtually nil. In 1958 it was more than 10,000.

New level of examination sought

This is, however, only part of the present-day tendency for external examinations to spread into the secondary modern school. Most secondary modern pupils have not the ability to pass in more than one or two 'O' level subjects at the age of sixteen. Consequently head teachers have been looking for an examination which is somewhat lower in level than the G.C.E., but which will act as an incentive to secondary modern pupils to remain at school beyond the age of fifteen. As a result they have been turning to another series of examinations which until recently did not impinge upon the schools at all.

There exist a number of examining bodies which have been organizing examinations for many years in connexion with part-time adult education in evening institutes. Some are national in character (for example, the Royal Society of Arts) and some regional (for example, the Union of Lancashire and Cheshire Institutes). Many of them were founded as long ago as the middle of the last century, when they arose out of the upsurge of popular self-education in the middle eighteen-hundreds. During the past fifty years they have settled down into serving a limited but useful purpose in connexion with evening institute education.

In their search for suitable examinations for secondary modern pupils, head teachers have been turning to these evening institute examinations, and the examining bodies, realizing that their existing examinations were not suitable for the purposes of the day schools, have responded by organizing examinations at a level lower than the 'O' level of the G.C.E. The commonest type is a group examination requiring passes in four or five subjects, with compulsory English.

The picture, however, is confused, for the situation is changing rapidly, and owing to the local character of most of these examining bodies, it varies from region to region.

Summing up

It will thus be seen that the educational climate has changed drastically during the past ten years in its attitude towards external examinations. Most teachers would still adhere to the principles they enunciated in the nineteen-forties. They would say that ideally they do not want to be restricted in their teaching by examination syllabuses and the need to get pupils to the arbitrary standard of a pass mark.

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But events are proving too much for them. The G.C.E. is going from strength to strength, and the sub-G.C.E. examinations are obviously beginning to snowball along. In the interests of encouraging pupils to remain at school beyond the compulsory age, most teachers are prepared to go more than half-way in compromising with their ideals. The tide is therefore flowing strongly in favour of external examinations, and the signs are that as yet it is nowhere near full flood. Certainly no one appears to be anxious to stem it.

EDWARD BRITTEN

Supplied by the Education Clearing House (UNESCO) as part of its programme of diffusion of technical information on education.

Hints to Young Teachers

ON THREE OCCASIONS, under three very different sets of conditions, and at three different times in my own life, I have been given advice on how to succeed as a teacher. Once (almost forty years ago!) when I began life as a student teacher, little older than my charges, once when I joined the staff of a public school, and once when I went to teach in what was, to all intents and purposes, a slum school! It would be difficult to find conditions which varied more greatly than in the three schools concerned—and as difficult to find advice which varied any more. For I was given three guides—almost golden rules—to follow. These (I do not give them in the order of actuality) were:

Make your pupils respect you.
Make them afraid of you.
Make them like you.

I have often pondered over these suggestions, not only because I wondered what exactly each of my would-be mentors had in mind, not only because, to me at least, they seemed so different, but because all of them were concerned with my pupils' attitude to me and not with my attitude to them. Yet, when I am called upon, as ageing professors so often are, to offer advice in such a situation, I find myself more concerned with the attitude of a teacher to his pupils than with their attitude to him. And of course I realize that the most difficult thing of all is to give advice which is practical, something which can be acted on. However, it often has to be

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done and here I find myself faced with doing it in writing, instead of speech, which is even more difficult.

To anyone starting out to become a teacher, whether faced with the initial decision about a career, or whether just starting a training course in a college, or just taking up his first appointment, I would as a start make a purely practical suggestion. Look back on your own experience, think of all the teachers who taught you and choose those who most influenced you. Ask yourself some questions about them. Why did they influence you? In what ways did they influence you? How exactly did this influence operate on you? What did it make you do or think? What were the qualities of these particular people which made them different from others?

Most of us can look back with affection and respect and a long continued sense of indebtedness to Old So-and-So—the man or woman who, long years ago in many cases, did something, and was something, which made us different then and which has stayed with us ever since. They gave us something which Time has not been able to steal away. A passionate interest in a particular subject, a new ideal to live for, a wider understanding of a subject, or of people, a new attitude to living . . . things which we cannot define perhaps, but which we know to exist.

These are the men and women who should be taken as models for the young teacher to grow into. Study technique and method by all means, study psychology and philosophy, but remember that, in the end, education is something to do with boys and girls and not only with the tricks of a trade or the theories of the pundits. My model is perhaps composite, combining many features of several people. If I had to choose the one quality which stood out above everything else it would be their humanity.

By this I mean their capacity for a sympathetic understanding of those they taught. When we failed to do well their first thought was whether they had done as well as they ought—they saw their faults first, those of their pupils second. Before they told me to ' do it again ' they said: ' Let me try and explain it again, in a different way.' Their persistence in effort helped to breed in us something of the same kind, a determination to stick it out. Then of course it was patently obvious that they had a passionate interest in their subject, and we caught that interest, for interests are caught, not taught. Moreover, they demanded of themselves what they demanded of us. Old X, such a stickler for punctuality, was always punctual himself, or nearly always. I knew him to be late only twice for class. The first time he said: ' I apologize for being late and ask you to forgive me as the reason was beyond my control.' The second time—' I am late for no good reason. I can and do apologize.

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You cannot forgive me, as I have neither reason nor excuse.' Playing to the gallery? Being an old fool? No—helping us to grow up by treating us as grown-ups.

Above all—they never preached at us! These were the men who made me seek a standard of performance because they so obviously set one for themselves. I learned to be ashamed of untidy work just because Old Nick set for himself such a standard of precision on blackboards, and whenever he wrote in my exercise books. He never tried to fob us off with half truths or excuses, he always said bluntly—'Sorry, I forgot to do it', or whatever it was. He was witty, but never sarcastic. He could be critical, but never discouraging—and no good work ever went unrewarded by his sympathetic comment. In brief—he was one of the encouraging kind, cheering youth on to excel itself. We must have let him down pretty often, but he at least hid his disappointments from us!

There, then, is a piece of advice which few cannot practise. Choose a good model and try to be like him. It can be taken a step further—by using oneself as a model—to remind oneself that others are not so different. Our needs are their needs, and we share their frailties.

We all like to be recognized, to be approved by our fellow beings, to feel that we have 'a place in the sun'. All good teachers, knowing this, try to use this knowledge in their job. The worst of pupils has some feature which is better than all his other features, however bad they are. Seek it out, recognize it, use it, even if you have to invent almost purposeless jobs and situations. Above all, share out the 'distinctions' in some way, so that everyone gets a chance to be monitor or leader.

Remember that 'nothing succeeds like success', and give everybody some chance to succeed. With unfailing regularity I used to be bottom of the fortnightly lists in all kinds of things. What an encouragement to effort! It was Old Nick who, knowing that I had changed schools a lot and so missed much of the basic stuff, one day handed me out a special test—made for me to succeed—and then put me at the top of a list or two! Today there's a lot of talk about 'pep-doses' and 'shots-in-the-arm'—that is what Old Nick's device was to me. And, like many others, having once found I could do something I got a kick out of it, a new degree of confidence, and began to do better. We all have to learn to compete against others, but one's first competitor is oneself, one's inabilities, lack of courage, lack of the 'will to win'. If you can build these things up in your pupils you have started them on the road to success at school, and in after life.

One of the ways in which teachers differ from each other is in

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regard to the ability to make things interesting. Look back for a moment, and remember that some subjects were interesting with some teachers, and dull with others. This is nothing to do with the subject. It is a function of the teacher, and especially of his interest in the subject and his pupils. 'Make it interesting'—many a college tutor has said that to a student on teaching practice! How hard it is to do, and how hard it is to explain or demonstrate how it can be done!

First of all—remember that youth has its interests, in games, in collecting, in pictures, in film-stars, in hero-worship. Get to know these interests, and use them in your teaching. How they can be used depends on subject and setting. You teach History, English, Geography, Science; surely point after point can be linked up with children's interests? 'Did you see that film about Hannibal crossing the Alps?' Afonso de Albuquerque led the expedition to the attack at high tide—now, why did he choose that exact time?'—and so you make use of young So-and-So, son of a fisherman, who knows by experience that the tide will carry boats up-river even if there's no wind, or the wind is in the opposite direction. Things have to be tied up with what children know, what they have done, what they have seen.

Moreover, all these things lie around, at hand, outside the school. There's the old fort with its ancient guns—go and have a mock attack with half the class defending it. But argue it out first, like the commanders of old did. The best time to attack—why? The best place—why? Planning it all—how will you give signals? How keep contact? How change the plan if things go wrong? Most pupils will react to this kind of approach because it fits in with their interests, and because when history becomes interesting they cannot avoid learning it!

This question of interest, which I believe to be of central importance in teaching, can be tackled in another way. Is it not true that our interest is attracted by that which is new, unfamiliar or strange? Do we not react to the problem in the situation—something which challenges our attention, which by some magic of the mind causes interest to well up in us? It would be of advantage to every teacher to use this approach in his teaching. So often we are content to tell, to dictate, to inform—we so seldom ask Why? And when we do we so seldom set the problem in a manner which attracts the attention, interest and effort of our pupils. If we did we should have the reward of success in our teaching, and our pupils the excitement of discovery and the satisfaction of achievement.

This approach has another value. It makes more easy the development of a new relationship between teacher and taught.

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Tradition has set the teacher in authority over the pupil. Our own limitations have led us to think of this as a form of power which demands obedience—'their's not to reason why'. Let us have authority, but let it develop from the logic of the social situation, let it lead us to accept the responsibility which should always accompany any claim to rights. And let us use our authority, as much as we can, in the sense not of our power, but of our wider knowledge and greater maturity. Opportunity has given us the chance to lead. Let us remember that those who follow most willingly are the ones who serve most freely. It should be the aim of every young teacher to inspire, not inhibit, to carry his class with him, not force them to follow. One step towards doing this is to build up trust and understanding, respect and co-operation between his class and himself. It is for this reason that good teachers seek the co-operation of their pupils in planning work, organizing activities, and so on. By doing so they smooth their own path and contribute to the social development of their pupils.

This is all an old story. We all know it well. Yet teachers do little to put into operation ideas and methods which in our hearts we know to be true but which we are afraid of in our minds! Teachers, young teachers above all, are afraid to come out of the ivory tower, with its intoxicating sense of power, down to the drab realities of life. They want to keep their so-called power and to retain the prestige which, in the Asian tradition of the *guru*, has made them men apart from the common herd. They lack those qualities which matter so much to the teacher—confidence, courage, and faith in themselves.

Nor are they always helped by conditions around them—the cynical staff, the Principal harassed by detail and who has long since lost interest in the real problems of education, or the Inspector who is a policeman rather than a collaborator in the search for the real ends of education. Young teachers especially, full of progressive ideas and enthusiasm, and fully aware of their shortcomings and inefficiencies, find that their elders are not their betters—they are merely aged anachronisms, reactionary and timid, who have lost faith and ideals.

Teaching is not merely a way of earning a living, important though that is. It is a faith to be served through thick and thin. It demands courage to withstand those who are apathetic, cynical and obstructive. It demands a sense of dedication, a willingness to make sacrifices and a readiness to suffer. Above all it demands an ever ready willingness to retain the common touch, to be one with one's pupils, and an unwavering acceptance of one of history's greatest lessons—that man has gone upward to higher and better

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things through those qualities of the spirit which come to bloom and fruition in an atmosphere of acceptance, understanding and sympathy. The teacher needs not only to be a worshipper at the shrine of learning, but a missionary in the service of childhood.

T. L. GREEN

Parent-Teacher Associations

NOT LONG AGO we would have disposed of the idea of a Parent-Teacher Association as just one more American fad. For thus have we been given to disposing of any idea that is novel to our stereotyped educational acceptances, and the easiest way to brush aside a proposition is to label it as 'foreign'. It is easy to forget that some of the most valuable aspects of Indian education were originally foreign, and it is to these we now cling.

If our schools were all that we desired them to be, a Parent-Teacher Association would be superfluous. It is because our educational system lacks so much that such associations have become necessary, and only the very conservative would fail to recognize their value. The teacher in India can no longer cope with the burden that he is expected to carry, and it has become necessary for the parent to share in the business of instruction and education.

Yet we resist the concept of a well-formulated body within which the sustained association of parents with teachers can live and grow. A half-hearted union is a travesty of the original idea of a Parent-Teacher Association. This was intended to be a vital, educational-cum-social group that serves child, teacher, parent and community. Seen in these terms, it cannot escape organization; it cannot survive without a favourable environment for growth.

Today the need for a Parent-Teacher Association has been recognized by our educationists in New Delhi and the idea cannot be easily abandoned. It is not very widely accepted, but it has invaded certain schools with a positiveness that has for ever destroyed *laissez-faire* in such matters, and that promises to influence the development both of schools and of education.

The parent, the teacher and the child

To the parent, the association offers the assurance that his child will be studied, instructed and assisted with care, regularity, understanding and vision. The fact that the parent is made to see

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himself as an essential part of this process of enlightenment gives him a stake not only in the education of his child, but also in the school of which his child is a product. Incidentally, therefore, the parent educates himself and contributes to the well-being of the community. I have seen hard-worked parents attend meetings of small parent-teacher groups, and they show an interest and a vitality that is truly encouraging. Fathers are generally keener than mothers, but no doubt the retiring nature of the average middle-class mother explains her comparative backwardness. Every parent who has been actively associated with these groups has benefited in some tangible way by his association, and there is also an intangible development that adults are unconscious of in themselves, but which is nevertheless apparent to teachers.

To the teacher, such associations bring encouragement, status and a sense of achievement. The hopelessness that a young teacher feels when confronted with a class of sixty children is relieved by the knowledge that thirty of these children have parents who will supervise their homework, encourage good reading habits, and assist in school activities. Where the child is considered a common product of the school and the home, co-operation is bound to result. It is amazing how close such associations can bring apparently isolated parents and teachers.

For the child, who is the most important person concerned, Parent-Teacher Associations provide mental and emotional security. I have watched children grow greatly excited about PTA elections and offer to help with the social side of such events. They are not above speculating on the chances of success of this or that parent, and the knowledge that their own parents and teachers have the confidence of a majority does much to increase and maintain confidence in the elected.

There are dangers to be faced too, and they are not difficult to see. An interfering Parent-Teacher Association can be a liability. Such an association must understand the limits of its activities. It does not exist to work the ordinary machinery of school life, to interfere between principal and staff, to plan the curriculum, to revise the school's teaching methods, or to assess the strength and weaknesses of the school staff as an instructing body. Nevertheless the true functions of this association should enable parents to assess schools, apart from the measure of success at examinations. Only a forceful principal can initiate, steer and stimulate a Parent-Teacher Association, and to the strong administrator such an association is a manifest aid.

MURIEL WASI

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An Investigation into the Reading of Journals and Magazines

TOWARDS THE END OF 1954, two hundred and seventeen boys and girls of the senior section of Lawrence School, Lovedale, in the Nilgiris, co-operated in this investigation. There were 174 boys and 43 girls, ranging in age from 8 to 17 years. The group had varied cultural, racial, economic, linguistic, and literary backgrounds. All members had been resident in the school, varying from a minimum period of one year to a maximum period of eight to nine years.

Aims of the investigation

(*i*) To discover the extent of the group's reading of magazines, newspapers and comics.

(*ii*) To find out the range of popularity of these magazines, newspapers and comics.

(*iii*) To discover if full use was being made of the material offered by the school in the library, reading rooms and House lounges.

(*iv*) To find out if, in their reading, there was any discernible difference between the bright and the average child. Intelligence was to be judged by attainment and performance in bi-monthly and annual examinations.

A special study is being made of scholars who had come to us after winning the Government of India Public School Merit Examination, but this is not yet complete.

(*v*) To find out if hobbies and other leisure-hour activities had anything to do with the choice of specific reading material.

(*vi*) To help pupils improve their taste in reading through guidance and personal interviews.

Method of investigation

The method followed throughout the inquiry was mainly subjective, based on personal interviews and group discussions. The results were therefore largely gleaned from these casual interviews with the children, informal talks, group discussions, and a close observation of reading habits during leisure time spent in the library, reading rooms, clubs and House lounges. This, of course, was done in a most unobtrusive and friendly manner, and extended over a period of five to six years. A questionnaire, reprinted at the end of this article, was circulated but no attempt was made to employ statistical devices for these reasons:

(*i*) There was a wide diversity in the group in so far as race, sex, age, culture and literacy were concerned.

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(*ii*) The cross-section was nevertheless small, specific and limited.

The entire group was however divided into four distinct sections, as indicated in Table I below, because (*a*) to a large extent the junior children, aged 8-10 years, belonged to the same academic class. Similarly the age groups of 11-12, 13-14 and 15-17 attended respectively the same academic class, and (*b*) it was found convenient to make use of these four groupings in order to understand the relative level of maturity within the respective groups in so far as the reading of magazines was concerned.

TABLE I

	Age Group 8-10 (34)		Age Group 11-12 (68)		Age Group 13-14 (72)		Age Group 15-17 (43)		Total 217
	Indian	Anglo-Indian	Indian	Anglo-Indian	Indian	Anglo-Indian	Indian	Anglo-Indian	
Boys	27	3	41	11	43	12	23	14	174
Girls	3	1	3	13	8	9	4	2	43

Each group has been investigated separately. Verbatim statements in response to the questionnaire have been analysed. The results are here concluded with a discussion. General conclusions relevant to each group are also drawn. Where possible the reaction of the children to guidance and in interview is recorded. Improvement in taste and extent in reading magazines is also recorded wherever this was discernible.

Age Group 8-10. Analysis of data

The verbatim statements of 34 children (4 girls and 30 boys) strongly indicated that the group had made no real acquaintance with magazines provided in the school. Two children, a boy and a girl, mentioned the *National Geographic Magazine*; a girl mentioned the *Children's Newspaper*; and two boys mentioned *Sport and Pastime*. Another boy mentioned *Chandamama*—the Hindi edition. Beyond that nothing. It was obvious that the reading of comics predominated in the group.

The classification of comics, read by this group, falls largely into the following categories which are reported in order of popularity.

(*i*) FUNNY COMICS: *Donald Duck*, *Mickey Mouse Weekly* and *Walt Disney* were immensely popular, because of the jokes contained and fun to be had from them.

(*ii*) TARZAN COMICS: Popular because of the jungle and animal

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stories. The fighting and excitement portrayed seemed to account mainly for their choice and popularity.

(*iii*) ROY ROGERS AND DELL COMICS: Next in order of popularity, for general reasons of excitement.

(*iv*) Parental pressure appeared to be the reason for a few children reading the classics. *Alice in Wonderland*, *Joan of Arc*, *Midsummer Night's Dream* and so on were selected since 'they contained good English which consequently had a good influence on the children's own English'.

On the whole the junior group showed no desire at all to read newspapers or worthwhile magazines. This in spite of the fact that various magazines and newspapers were subscribed to by the school. There was in fact evidence of apathy towards this form of reading. The school imposed a ban on the reading of comic papers because adult opinion was found to be unanimously against this. Confiscation was ruthless and made by masters as well as prefects. But in spite of all precautions comics continued to reach the school by way of visiting parents, or from home through the post, or bought during journeys to and from school. Swopping and exchanging of comics was quite frequent and they infiltrated the whole group. During group discussions, interviews and debates various reasons were advanced for the popularity of comics. These were as follows:

(*i*) Many children preferred comic papers because pictorially and illustratively they appealed to their visual sense. The quick movement of events traced in colour and in picture, together with 'snappy' sentences, were the deciding factors in determining their popularity. Action words like 'bang', 'boom', 'crunch', 'munch' and so on, had a dramatic appeal. Self-identification with the main character was made easier and sympathy was established with him in the shortest possible time. 'Even an illiterate,' it was said, 'could follow the stories in comics.'

(*ii*) Comics were cheap to buy. At the most a comic would cost 75 naye paise and it could be exchanged by paying a sum of 6 naye paise to the shopkeeper. This ensured wide and multiple circulation.

(*iii*) Comics gave outlines of stories in simplified English which was easily understood. They were suitable substitutes for thicker volumes, in the limited leisure time enjoyed in school. Some children remarked that comics brought the classics, like *Macbeth*, *Othello*, and others, within the ken of their comprehension. The children believed they would find encouragement to read the originals later on.

(*iv*) Comics on space travel, satellites, sputniks, space-ships and allied subjects, seemed to have made children science-conscious. Their imagination was stimulated. They were helped to understand abstract concepts in concrete and pictorial terms.

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(*v*) Comics were important for reasons of relaxation. The children found fun and amusement in the light reading, jokes and humour contained in them.

(*vi*) Comics appeared to aid 'good conversation'. They contributed to the children's repertoire of jokes and helped develop their wit and sense of humour. The colloquialisms contained in the text were also appreciated. Comics were equated with intelligent cartoons which provoked spontaneous laughter.

(*vii*) Comics which contained life stories of famous authors, such as H. G. Wells, Shakespeare, Charles Dickens and others, seemed to have contributed to general knowledge.

Other observations and educational implications

An interesting observation regarding the group as a whole was that all children, whether serious-minded or not, sought 'fun', excitement, and adventure in their comic reading. Two emotionally inhibited children, coming from rather disturbed homes, considered the reading of magazines or comics as a waste of time. Neither read anything at all in their spare time. A boy whose background was both educationally and culturally stimulating (whose father was in the foreign service) denounced outright the reading of comics, which he felt were in bad taste, catering to poor intelligence. Here the potency of the home influence was discernible. In regard to their hobbies, which were still nebulous, no magazine seemed to have appealed to them. *Sport and Pastime* was read by two children because of their interest in the game of cricket.

The group had on the whole a tremendous enthusiasm for reading. The task was to re-educate taste through extensive and sympathetic guidance. Their antipathy to good magazines was to be eradicated gently. No ruthless attempt to denounce comics was made, but magazines of various kinds were brought into the classroom and were read out in an attempt to redirect reading enthusiasm. The children were thus brought into closer contact with finer reading material available both in the classroom and elsewhere.

Age Group 11-12. Analysis of data

Although the 68 children of this group of 16 girls and 52 boys had extended their reading to include magazines, their enthusiasm for reading comics had not altogether died. Most of the group read comics and magazines simultaneously. Their reading was not solely confined to comics. Their acquaintance with various magazines available in the school had not only increased immensely, but also the quality of the magazines chosen showed a tremendous improvement on the whole. Reading material of the present group

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can, therefore, be treated in two distinct groups as, (1) comics and (2) magazines.

Group 1—Comics. Although this group did not cease to read *Dell*, *Tarzan*, *Cowboy*, *Mickey Mouse Weekly*, 'westerns', and 'funnies', they had added those based on the classics, such as *David Copperfield* and *Ivanhoe*. Science comics, fiction comics, historical and war comics as well as many others seemed to have claimed their attention. Developing interests and hobbies also seemed to influence their choice. 'Laughter', 'enjoyment', 'wit' and 'humour' were the main motives behind choosing the 'funnies', *Mickey Mouse Weekly* and *Dell* comics. 'Adventure', 'excitement' and the fighting portrayed were sought in others. The quality of comics chosen showed much improvement on the whole.

Group 2—Magazines. From Table II printed at the end of this article it will be seen that the extent of reading had largely expanded and acquaintance with various magazines was rather wider than that of the age group 8-10. Motives given for choice were varied and intelligent. The level of reading had improved and matured. Magazines like *Sport and Pastime*, *Illustrated Weekly of India*, *National Geographic Magazine*, *Time*, *Reader's Digest*, *Boy's Own Paper*, *Scout*, *Treasure Chest*, *Mail*, *The Hindu*, *World Sports*, *Popular Science*, *Sunday Standard*, *Shankar's Weekly*, *Punch*, *Children's Digest*, *Illustrated London News*, *Heroine*, *Sunshine* and *Chandamama* were known and read by the children. One observation which merits serious study emerged from this particular group analysis. It became obvious that the group was passing through a transitional phase in its reading. An attempt was being made to readjust to reading other than that of comics. There seemed to be a growing interest in the world outside; a general desire for information had gained ground within the group. Hobbies were being channelled, to compel the use of magazines like *Popular Science*, *The Boy's Own Paper* and *Scout*. Since the accent on sport is quite strong in the school, magazines like *Sport and Pastime* were read by a large number of the group. The amount of reading was not only large but also varied and intelligent. *Shankar's Weekly* and *Punch* were known to one outstanding student. The world news contained in *Time* seemed to have interested only two students. Others read the publication for the Sports, Medicine, People, and Movie sections. For its 'fun', 'humour' and 'jokes', to be absorbed and used as a social asset, the *Illustrated Weekly of India* seemed to be popular.

Age Group 13-14. Analysis of data

71 children, comprising 17 girls and 54 boys of the age group 13-14, formed the bulk of this study. The list of magazines given

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by these children was rather formidable especially when compared with those read by the younger groups. Their interest in comics had not only definitely declined but comics were openly denounced. The group had substantially enlarged its acquaintance with the wide variety of magazines available in the school. In developing their hobbies, general interests and other intellectual pursuits the children had been compelled to make use of the various magazines available. The trend was towards mature reading. Although emotional stories with action were still preferred, stories which were exciting, fast moving and adventurous, the majority of the group was moving towards objective and factual reading. An interest in current events and news of the world seemed to be growing. The interest in sport seemed to have gained momentum too among those who were anxious to maintain the already strong tradition of the institution in sport. However the present group seemed to have attached too much importance to sport. Pictures and pictorial representation of world news made a strong appeal to the majority of the children. *The Children's Newspaper*, edited by Arthur Mee, seemed to have fulfilled their need for background news. This is expressed in simple language suitable to their age and mental ability.

'Jokes', 'satire', 'wit', 'repartee' continued to be pursued since they were values cherished as social assets. Incidentally the more serious-minded students monopolized the humorous magazines, like *Punch* and *Shankar's Weekly*. Their acquaintance with them was thus wider than that of the average student. The girls, too seemed to be choosing magazines which catered to their hobbies and specific interests. They enjoyed *Woman and Home*, *Screen* and *Heiress*. There was no definite cleavage between the reading habits of boys and girls. Some boys read *Screen* but girls eschewed *Boy's Own Paper* and *Popular Science*. In the last analysis it was the interest of the individual which determined the choice and variety of magazine. One of the brightest children's remarks was regarding *The Reader's Digest*, and sums up the trend of this group. It throws abundant light on what is expected from their reading material.

> '*The Reader's Digest* is educative as well as good reading and covers a wide range of topics from politics to fashions—also short stories about life. They may concern children, adults or just poor people. They are usually fast moving and are just relaxing not absorbing you so completely as to be distracting.'

Age Group 15-17. Analysis of data

This age group comprised 43 students in all, 6 girls and 37 boys. A distinctly maturer level of reading was revealed, especially when

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compared with the age group 8-10. The general trend seemed to have moved towards the factual and the objective; objectivity in news, a desire to gather information regarding world events, politics, all seemed to influence the choice of reading material on the whole. Hence the popularity of magazines such as *Time*, *Illustrated Weekly of India*, *Reader's Digest*, *Children's Newspaper*, and *National Geographic Magazine*.

Reading matter indicated wider interests and serious hobbies. The variety of material chosen definitely indicated a well-marked desire for reading itself. Each child in the group was not only conversant with a wide variety of magazines (at least three magazines, on the average, were read by each) but was also selective. The quality of reading material was superior and choice discriminative. The multiplicity of motives for choice indicated the wide range of expectations and needs of the group. Vocational aspirations also seemed to have determined the choice of reading to some extent.

Although the habit of reading comics was not altogether absent in this group it was revealing to observe open denunciation of them by comments such as:

'I have stopped funnies as they are childish.'
'It is a waste of time to read comics.'
'They cater to low taste and intelligence.'
'They are babyish.'
'I have no time for them.'
'They spoil our English and arrest our imagination.'

The more serious-minded students in this group, as in others, indicated preference for and acquaintance with magazines including *Shankar's Weekly*, *Blitz*, and *Punch*, and daily newspapers. One student had even shown preference for a particular daily newspaper, *The Hindu*, because, to use his own words, 'it gives correct news'. Although too solitary an instance to prove anything, yet it was quite significant in denoting the growing level of maturity. Another student mentioned *Punch* for its humour. *Blitz* was mentioned by one scholar because 'it is critical of the Government of India'.

An interest in specific hobbies determined the choice of magazines such as *Popular Mechanics*, *Popular Science*, and *Photoplay*. Others pertaining to sport, like *Sport and Pastime* and *World Sport*, seemed to be most popular, which was to be expected in view of the general interest in school sports.

An interest in stories seemed to be waning with this group. As might well be expected, the vocational aspirations of the girls seemed to be prompting them to read *Woman's Own*, *Woman*

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and Home, *Heiress*, *Screen* and other film magazines. The boys, on the other hand, wanted *Popular Science* and *Popular Mechanics* for their interest in engineering and science. It became apparent that children of superior intelligence and scholarship made wider use of the magazines available at school.

Overall, however, the two groups of 13-14 and of 15-17 seemed to show similar tastes in their reading material. There was much in common between the two groups. The 15-17 age group read much less than the 13-14 age group, but this may be accounted for by the fact that the reading of the 15-17 year olds was limited, to a large extent, by the demands of external examinations (Senior Cambridge in this case) for which they were preparing. The demands of textbook reading seemed to have narrowed the extent of their general reading.

Summary and conclusion

The investigation revealed the varied reading tastes of 217 children. Various interests, hobbies and needs—intellectual, cultural and emotional—were sought to be satisfied through the reading material available in the school.

The preference of the group on the whole for comics need not alarm or bring despair to teachers. Children believe that comics fulfil a need. Their interest in comics does not display a depraved taste, as adults, judging by their own standards, are prone to think. Comics are consumed in transient reading, providing amusement, fun, excitement and adventure. Their visual appeal through colour and pictorial story-telling seems to decide the children in their favour. Ruthless confiscation of comics together with their denunciation creates a sense of guilt among the children, and produces tension among the teachers and the taught. Children will indulge in clandestine methods in order to procure comics. As the children mature, their interest in comics declines. They then find them sketchy, inadequate and poor substitutes for magazine reading. This transient interest passes without stress and storm if adults view the problem more maturely and tactfully. With guidance, the interest in comics is soon outgrown.

On the whole there is indiscriminate reading among children. Their enthusiasm for reading leads them to be 'addicted' to reading as such, regardless of the quality of material available. Most children usually read what comes their way to keep them busy in their leisure time. Discriminate, serious reading, for knowledge, information, and intellectual and cultural pursuits, develops later on. The popular belief among students that magazine reading

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TABLE II. Showing the relative popularity of certain magazines, and motives for choice

Magazine	Age-group 8-10 (34)	Age-group 11-12 (68)	Age-group 13-14 (72)	Age-group 15-17 (43)	Total Frequencies	Motives for choice
*Sport and Pastime ...	2	10	18	13	43	Interest in sports, hobbies, sports news, pictures of sportsmen and athletes
*Illustrated Weekly of India ...	0	9	14	11	34	Jokes, stories, information, articles and pictures
*Time ...	0	5	18	9	32	Current events, people, news, medicine, cinema, television
*National Geographic Magazine...	2	5	15	7	29	Colourful pictorial representation of the different parts of the world
* Reader's Digest ...	0	2	12	9	23	Information, good articles, stories and jokes
*Children's Newspaper ...	1	0	15	7	23	Riddles, puzzles, quizzes, and news in simple language
*Boy's Own Paper ...	0	3	7	4	14	Stories of adventure, jokes, things to do, also hints for boys' hobbies
*Mail ...	0	3	8	2	13	Curly Wee, news, sports, and accidents
*The Hindu ...	0	3	7	2	12	News, sports, leading articles, and accidents
*Treasure Chest ...	0	3	9	0	12	Stories, jokes, puzzles, things to do, and addresses for pen friends
World Sport ...	0	1	4	4	9	Sports, and pictures of sports heroes
Scout ...	0	3	2	2	7	Heroic stories about scouts
*Popular Science Monthly ...	0	1	4	2	7	Interest in science and making things
Illustrated London News ...	0	1	3	2	6	Pictures and news of the world in colourful pictorial representation
*Wide World Magazine ...	0	0	5	1	6	Stories of adventure
Champion ...	0	0	2	4	6	Stories, puzzles, riddles and jokes
Shankar's Weekly ...	0	1	2	2	5	Wit, cartoons, jokes and funny articles
Sunday Standard ...	0	1	2	1	4	Articles of interest and sports news
Movie Magazine ...	0	0	4	0	4	Fashions, actors and actresses
Woman's Own ...	0	0	0	4	4	Stories for girls, hints for girls, hobbies and general interest
*Kalki (Tamil) ...	0	0	1	3	4	Stories in Tamil
Heroine ...	0	1	2	0	3	Stories, fashions, aids to beauty
Children's Digest ...	0	1	0	2	3	Stories, jokes and puzzles
Punch ...	0	1	0	2	3	Jokes, satire, wit, repartee, humorous articles and cartoons
*Sunshine ...	0	1	2	0	3	Puzzles, stories and jokes

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Screen	...	0	0	2	1	3	Indian actors, actresses and film stories
Blitz	...	0	0	1	2	3	Criticism of the Government of India
Film Magazine	...	0	0	0	3	3	Actors, actresses and fashions
*Chandamama (Hindi)	...	1	1	0	0	2	Stories in Hindi
Caravan	...	0	0	2	0	2	Stories, jokes and puzzles
*Heiress	...	0	0	2	0	2	Stories for girls
American Reporter	...	0	0	1	1	2	News and pictures
Indian Express	...	0	0	1	0	1	Sports, news and accidents
*Woman and Home	...	0	0	1	0	1	Stories, recipes, and knitting patterns
*Needlework Illustrated	...	0	0	1	0	1	Hobbies like needlework and knitting
Popular Mechanics	...	0	0	1	1	2	Electronics and topics of engineering and other scientific interest
Photoplay	...	0	0	0	1	1	Pictures and interest in photography
Kalakund (Tamil)	...	0	0	0	1	1	Stories in Tamil
Chandamama (Kanarese)	...	0	0	1	1	2	Stories in Kanarese
Orient Digest	...	0	0	0	1	1	Variety of news
Life	...	0	0	1	0	1	Pictures and articles

* Journals and magazines subscribed to by the school.

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distracts them from their serious studies and consequently has an adverse effect on their attainment in examinations was contradicted by the results of the voracious readers of magazines, who proved to be among the brighter scholars. The readers of magazines had not only enlarged their horizon and general knowledge, but developed mental poise. They were also good debaters with wider interests and worthwhile hobbies.

Children coming from educationally backward and emotionally disturbed homes had no taste in reading whatsoever. They read nothing in their leisure and considered reading of any sort as a frivolous pursuit.

The deep-rooted traditions of an institution, its accent on hobbies and other activities, influence to a large extent the choice and popularity of periodicals among a school population. As, for example the present groups' exaggerated concern with sports reading material, which can be linked with the strong sporting traditions of the school.

Group discussions and personal interviews were found to be the most effective means of developing good reading habits.

SHAKUNTALA BHALLA

QUESTIONNAIRE

Name..... Boy or girl.....

Age..... Class at school.....

Please answer the following questions as honestly as you can.

1. Do you read regularly any magazines, children's papers or comics? Write down their names.
2. Which of these magazines or comics do you like best of all—and why?
3. Which magazines, papers or comics do you yourself buy?
4. Which do you get from home?
5. Which do you get by 'swopping' or exchanging?
6. Which do you just borrow?
7. Which of them do you get in your school?
8. In all the magazines and comics you read what kind of story do you like best? And why?
9. Who is your favourite character in the stories you read in these magazines and comics?
10. Do you read regularly any magazines connected with your hobbies, sports or practical activities?
11. Do you read any magazines in your own language—Tamil, Malayalam, Kanarese, Telugu or Hindi?
12. Do you want your school to buy any new magazines for your reading room? Write down their names below, if any.

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Report of the National Service Committee: An Appraisal

THE MINISTRY OF EDUCATION of the Government of India appointed in 1959 a committee to consider (*i*) how to provide a more lively awareness on the part of educated youth of the purposes and processes of the nation's reconstruction efforts, especially in the rural areas, (*ii*) how to inculcate in youth a sense of discipline, a spirit of social service, dignity of manual labour and dedication to the cause of the country, in order to make up the deficiencies of the present educational system, (*iii*) how to prepare educated youth for the enormous task of national reconstruction, and (*iv*) how to safeguard national security, which would require a reserve of trained personnel to be available in an emergency.

Let us examine this rather ambitious array of aims. The scheme, it is said, should be visualized ' as a measure of educational reform directed towards remedying the observed deficiencies in our educational system ', which presumably results in failure to reach the objectives mentioned above. It must be admitted that the committee has made no new discovery in the so-called deficiencies already pointed out. The question is whether the recommendations embodied in the scheme *will* remedy these deficiencies and produce the idealistic results expected.

The recommendations now published are, in brief, as follows:

(*i*) Military discipline from nine months to a year, comparable with that of the armed forces.

(*ii*) Social service and manual labour for at least four hours a day, in selected areas. The work to be so organized that the community derives tangible and lasting benefit.

(*iii*) A broad general education, laying stress on the improvement of English, learning of Hindi and other regional languages, improvement of general knowledge, acquaintance with India's cultural heritage, programmes of social and economic planning and so on, so that the participants, on completing their national service, are fit and active enough to take their place in life even if they do not enter a university. The period of national service should also be fully utilized for the emotional integration of youth with the country and its ideals.

The young people to be subjected to the scheme are those who have graduated from high schools or higher secondary schools and are preparing to enter a university. On leaving school, students are to be sent out for a year to rural areas where they will be accommodated in camps.

Several questions come to mind. First of all, who are the pupils

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who will be compelled to do this national service? The larger proportion of pupils who pass out from high schools and higher secondary schools come from rural areas. Therefore, it simply means that these students will be going back where they belong. Their being imbued further with ideas of the dignity of labour sounds rather absurd. Besides, only about 15 per cent of our school-leaving population goes on to college. Is the scheme, on which a colossal sum of money is to be spent, meant only for this small percentage? If it is to be accepted as an excellent scheme which is to achieve all that it says it will, then why discriminate in favour of this amall percentage? If it is meant to include those who do not go to college, then it is certainly going to present great hardship to those parents who depend to some extent on their children's earnings. These children either go out as apprentices for vocations or begin to earn their living in other ways as soon as they can.

One may also ask, is the scheme a movement for educational reform? If it is, then could not all this be done in the schools themselves? Are not some progressive and better-placed schools already doing this through scouting and other extra-curricular activities? If some are not, it is mainly due to lack of aid and encouragement from the Government: a lack of finance, a lack of playing fields, a lack of space, a lack of adequate teachers. Why should not facilities be given to existing schools, and the money intended for the scheme utilized for improving conditions in schools? The dignity of manual labour is not a special privilege of rural areas alone. If schools in rural and urban areas were given playgrounds, plots for gardening, workshops for carpentry, weaving, book-binding and so on, there would be plenty of scope to teach the dignity of manual labour. Indiscipline would also become a lesser problem, and with improved conditions for work there would be a better teacher-pupil relationship, and better emotional integration with the ideals of the country.

A curious fact that strikes one on reading the Report is that the committee feels that if young people are taken out of their existing environment and exposed to effective and lasting influences of corporate life, ' they will improve in physical health, they will be inspired with a zeal for serving the country '. How we can get lost in a sea of words and high-sounding sentiments! Is there no corporate or community life in schools? If teachers today are incapable of instilling and achieving all the committee hopes to achieve, then where are the people or teachers who are going to be the guiding spirits of our youth during the period of national service? Is there going to be an entirely different batch of people for this purpose? Where are they to be recruited from? Is another sum of money

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to be spent on their 'very special' training? For it must be something very special if they have to achieve in one year what our teachers have not been able to achieve in 11 or 12 years of schooling.

The committee also feels that there will be an over-all improvement in physical health in this year of training. Perhaps its members have never lived in a typical Indian village with its insanitary living conditions, impure water supply, and a total lack of the elementary principles of hygiene. After our youth has been exposed to this for a year will it be anxious to come back to the rural areas as teachers, doctors and nurses! Or is it hoped that in one year youth will give the village everything it lacks?

Another of the aims of the committee lies in the vague hope that young people will be more mature when entering universities after a year of national service. If maturity, in the sense that the committee visualizes it, is not possible to achieve in 11 or 12 years of schooling, it cannot be achieved by adding just one more year of national service. If the aim of the committee is to raise the age for university entrance, then this is certainly no way of doing it. A broadened, improved and extended secondary education may do this better.

The whole report is half-baked. It is vague; the assumptions it has made lack factual study and evidence. The committee seems to have lacked the courage of its convictions. If it wanted compulsory military service to instil discipline, it should have said so outright and not carefully avoided the word 'conscription'. If on the other hand it wanted educational reform then it should not have confused the issues. It is a queer recipe suggested for removing our educational evils: a pinch of military discipline with a handful of manual work, to which has been added the salt of improvement in the study of languages and cultural subjects. There are no concrete, practical suggestions as to how the recommendations are to be implemented. No committee has a right to recommend anything, unless it has given thought to the 'how' of the implementations as well as the practicability of them. The committee has merely passed the baby to the as yet unborn National Board, which it is recommended should be set up to delimit and solve the problem. Most important of all, it has very studiously avoided the vital question of finance: how much the scheme will cost and whether the money is available. At a recent discussion someone said that, taking the total number of pupils to be 11 lakhs, it will cost a hundred crores of rupees a year.

One cannot lose sight of the effect the scheme would have on existing ones: the Boy Scout Movement; the National Cadet Corps; the Village Apprentice Scheme; the National Discipline Scheme.

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A glance at the appendix of the report will reveal that the scheme has one factor in common with all others, and that is in its aims. Is it therefore necessary to add the National Service Scheme to those already existing? Let us rather review the work that is being done by any one or other existing scheme. If it is worth while, let additional money be spent in expanding and improving these. Let those schemes that are redundant or overlap, as some of them definitely do, be scrapped. Let us not spend, or contemplate the spending of, large sums of money on new schemes.

The scheme has been put forward by a learned body of vice-chancellors and secretaries of the Ministries of Defence and Education. A recent conference of vice-chancellors at Poona gave approval and sanction to the scheme. Thus it has the further approval of yet another batch of academicians. We would like to ask how many of these people have been in direct touch with youth at school, or with the schools themselves. We would like to know why no headmasters, teachers, and others directly connected with students, were called upon to give their opinions, even if they were not directly represented on the committee. There is no reference in any part of the report to girls. We take it therefore that the scheme is to be applicable only to boys, and this perhaps also explains why no woman was included on the committee.

BEHROZE J. M. CURSETJEE

Since this article was received the newspapers have announced further developments.

A Working Group appointed by the Union Government recommends that the programme should be implemented in two stages. In view of the difficulties of finance, the Group recommends that the scheme be limited to those students seeking entrance to universities. It also states that part of the cost of implementation is to be borne by parents, who are to consider this extra year as the twelfth year of secondary education.

The cost of this revised National Service Scheme is estimated at Rs 50 crores spread over five years. The date for launching the scheme is July 1962.

Teachers, parents and the general public therefore have time to think and put forward their views.

EDITOR

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Book Reviews

J. WREFORD WATSON (ed.): *Nelson's School Atlas* (Nelson 1960), Demy 4to, pp. xvi+60, 12*s*. 6*d*.

If school children are to develop the atlas habit, an atlas that is designed essentially for them is a fundamental need. *Nelson's School Atlas* has been specially planned for senior school children and is sure to arouse their interest.

Besides maps, the atlas includes diagrams of the structure of the universe, the solar system, the earth's crust, erosion, deposition, and land-forms. These topics normally figure in school geography and they are beautifully and interestingly presented in this book.

Topics of general geography have been dealt with in a very graphic way. Page by page we are shown how man is conditioned by his environment. From various maps of the British Isles we see the influence of relief and geology on human occupations; the dependence of industries on available power; the action of seas and glaciers; conditions that favour agricultural pursuits; industrialization of areas around iron and coal fields. Pictures of the area concerned are used side by side with maps. They illustrate, and help us to determine and evaluate, the potent factors of why settlement and cultivation are where they are.

Instead of dealing with units of isolated countries, each continent is first surveyed as a whole on a physical map. This is followed by a series of regional groupings.

The maps themselves are simple, informative and interesting. They catch the eye and hold attention. The tones of colour used are light, soft and pleasing. The physical maps have a blend of 3-dimensional modelling and colour, thus presenting a kind of 'visual relief'. Natural vegetation is represented by appropriate symbols and an absence of these symbols indicates cultivated areas.

A highlight of the atlas is that the maps are designed to bring out only the important facts. All unnecessary details are cut out, with the result that essential place-names are not hidden in a crowd of those of lesser importance.

Another salient feature is that, besides the general index at the end of the atlas, a vertical coloured bar is provided at the edge of each page on which is listed the name of the continent, the scale, and an index of details given in the map itself. Economic information is also provided to show the basic resources required for modern industry.

All these distinguishing features along with a durable cover and strong binding would make *Nelson's School Atlas* an attractive tool in the hands of school-going youngsters. A tool enabling them to explore this fascinating world.

The publishers of atlases in India would do well to deal with topics in a similar manner, giving specific examples from Indian regions. By familiarizing children with their homeland, a foundation could be laid for a study of lifelong interest.

* * *

A Report Prepared for the Mathematical Association of Great Britain: *Mathematics in Secondary Modern Schools* (Bell, 1959), Medium 8vo, pp. vi+221, 12*s*. 6*d*.

This is a report prepared for the Mathematical Association of Great Britain by a committee originally appointed in 1946. As the title itself suggests, the report has been prepared with special reference to the problems and conditions obtaining in secondary modern schools in Great Britain.

The book contains pointed, constructive suggestions for profitable activities and practical hints. It provides ample food for thought for reorienting and revitalizing the mathematics syllabus. Methods are suggested to suit the changing conditions and needs. All this is compressed within the 221

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pages of this valuable report, which makes it equally useful and interesting to mathematics teachers in secondary schools in India and to those responsible for framing the syllabus, and writing and scrutinizing school texts in mathematics.

Taking its cue from an equally useful and valuable earlier report of the Association (*The Report on the Teaching of Mathematics in Primary Schools* published in 1955) and working within the broad principles already indicated in the interim report (published in 1949), the present report discusses, in its first part, the strategic considerations of the appropriate purpose, the new approach, and the proper organization of mathematics teaching at the secondary school level. In the second part it discusses in detail the points indicated in the first part. The note sounded regarding the variance in mathematical knowledge and ability of pupils in the same class is equally applicable here in India and the hints given in this respect deserve careful consideration. The report stresses the imperative need for taking note of the probable vocational interests and of making 'the school pupils see mathematics as a subject that touches on their lives and is worth their attention'. It therefore reviews critically each item included in the traditional syllabus and includes only those ideas related to real situations, to be introduced through experiences and experiments, which all pupils need again and again as they adventure into the realm of mathematics. The report also indicates, in some detail, mathematical ideas and techniques related to modern developments to make citizens aware of the relevance of mathematics to their everyday lives. In mathematical experiences and procedures, verbal descriptions and procedures are, according to the report, not enough and therefore 'mere learning of rules will fail to carry over into new contexts'.

The report deals with various topics of practical importance to the teacher such as the distinction between revision and remedial work, its twofold nature, diagnosis of attainment, the function of the practical topic, use of the environment, topics of contemporary importance and interest, vocational interests, relation of mathematics to other subjects and how practical topics themselves indicate a teaching method. Other topics pertaining to the organization of mathematics teaching in the school, such as staffing, syllabus, textbooks, time allowance, classroom organization, examination and testing, also find a place in the report.

A long and very useful chapter deals with mathematical ideas and procedures within the scope of the ordinary pupil. Topics likely to be suitable and relevant to pupils' interests together with comments on the mathematical implications of what they have to learn are included.

The index at the end adds to the utility of the report. The report deserves to be carefully studied by all concerned, particularly by mathematics teachers in secondary schools and by method masters in training colleges. It should certainly find an important place on the shelf of teachers' libraries in secondary schools and in the libraries of training colleges.

* * *

A. S. HORNBY: *The Teaching of Structural Words and Sentence Patterns, Stage I* (Oxford, 1959), Crown 8vo, pp. lii+170, 6*s*.

This book, by a well-known expert in the teaching of English as a foreign language, is an invaluable book for teachers—experienced or otherwise—who are concerned with the teaching of English at the early stages, in schools where the medium of instruction is not English.

The syllabuses in use today usually lay out material in the form of graded structures, or arrangements of words in sentence patterns. This book

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presents the various language items through a number of carefully selected sentence patterns suitable in classroom situations, summarized in a concise form in substitution tables. The material that should be taught in a first or second year syllabus is, therefore, made available to the teacher at a glance. This first section is followed by detailed and valuable suggestions on how these constructions may be introduced and drilled.

While the syllabuses and methods advocated may vary to some extent, the present emphasis everywhere is on ways of presenting structural words, and phrase and sentence patterns. There is a large measure of agreement on the early language items to be taught, though there may be some variations in the order of presentation. The language material in this book is so clearly summarized in tables that the teacher, teaching either according to a flexible or a rigid syllabus, will be able to find at a glance the items he is required to deal with. For example, there is a certain amount of difference of opinion as to when the question form should be introduced. The scheme presented in this book introduces it at an early stage, an arrangement that most teachers will welcome. If, however, the syllabus requires postponement, notes are provided to indicate how the question-and-answer work may be postponed.

Heads of schools should provide every teacher of English with his own individual copy of this little book, so that all teachers may make the utmost possible use of it. The book is to be followed by a companion volume that should prove equally useful.

* * *

B. L. HAMPSON and K. C. EVANS: *Science from the Beginning* (Oliver and Boyd, 1960) Book I, Medium 8vo, pp. 70, 6*s*.

One of the surest ways of arousing the young child's interest in nature would be to put this excellent book in his hands.

Fully illustrated with pictures in beautiful colours, it contains a great deal of information which should be a part of every child's general knowledge. The contents are graded; there are chapters about animals, their food, ways and habits; about plants and their appearance in different seasons; about insects, birds, and fish. But it is not only living things that claim the attention of the author. The book contains chapters on air and water, on rocks and sand, on the sun, the earth, the moon and the stars, on day and night, and on the seasons.

The presentation of the matter is simple. Each 'lesson' as it is called, takes up only two pages so that the child's interest in a particular topic does not flag. On one page of each lesson the facts are presented in short, easy sentences; on the opposite page colourful pictures illustrate the text. The highlights of each lesson are the sections: 'For you to draw', 'For you to write', and 'For you to do'. 'For you to draw' may have either the actual illustrations for the child to copy or it may be a direction such as this: 'Draw a picture of cliffs, boulders, pebbles and sand. Call it Big Rocks and Little Rocks.'

'For you to write' contains a few interesting and simple exercises on the subject-matter of the lesson. 'For you to do' has plenty of material with which the child can occupy himself and which helps him to assimilate the facts in a practical way. For example, some of the instructions are: Collect the different things that fall from trees; try and find the trees they come from. Find the names of the insects in your house. When you have a meal, find out which parts are plant and which parts animal. If you know anyone who has a rabbit, find out what he eats.

These examples show that the exercises have been well thought out and are such as will keep the interest

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of the child alive. There is not a dull sentence here.

This book is essentially meant for young children. The binding is stout, and the print large and clear. It will prove as enjoyable to a teacher as it will to the child.

We look forward to the subsequent books which we hope will be published in this series shortly.

* * *

ALEXANDER M. ROSS: *The Education of Childhood* (Harrap, 1960), Post 8vo, pp. 159, 10*s*. 6*d*.

The charm of Dr Ross's book lies in the easy persistence with which he calls attention to the problems of primary education, the needs of the primary schools, and the difficulties confronting the primary teacher in a world not yet alive to the importance of the training given to children between the ages of seven and twelve. To Dr Ross, the world revolves round the 'juniors', and he is persuasive in his attempt to make the world see this. Primary education, it is his theory, ought to have an all-round purpose, with the integrated development of the child as its objective.

From his writing, it is clearly seen how far this ideal has been achieved in the United Kingdom and how much remains yet to be done. There are in his presentation all the good intentions of our own basic education advocates, plus a practical understanding of the limits of theory and a tactful avoidance of rousing needless controversy. Nowhere is the latter more evident than when he treats of the educational inspector and the parent, two intruders into the quiet harmony of the schoolroom. With a good deal of humouring, he presses his points home. The inspector is expected to impart to particular schools the vast knowledge and perspective he gains from his experience with all schools. The parent's special knowledge of one child is to assist the teacher in tiding over particular difficulties without imposing too much on his general management of the class.

Dr Ross has something to say too about the special needs of schools in depressed areas, which are apt to be overlooked in the dispositions of local authority funds, and the importance of attracting more devoted teachers to the institutions which cater for over 90 per cent of the population in the United Kingdom. *The Education of Childhood* goes into detailed exposition of the problems of curricula, equipment and methods of teaching, stressing at every point the importance of drawing out the child's initiative and individuality, and of awakening, or rather fostering, his interest and curiosity.

Of special interest to teachers, the book contains much that could be read with profit by everyone. It is an invaluable contribution towards building an enlightened society and securing the health of the community.

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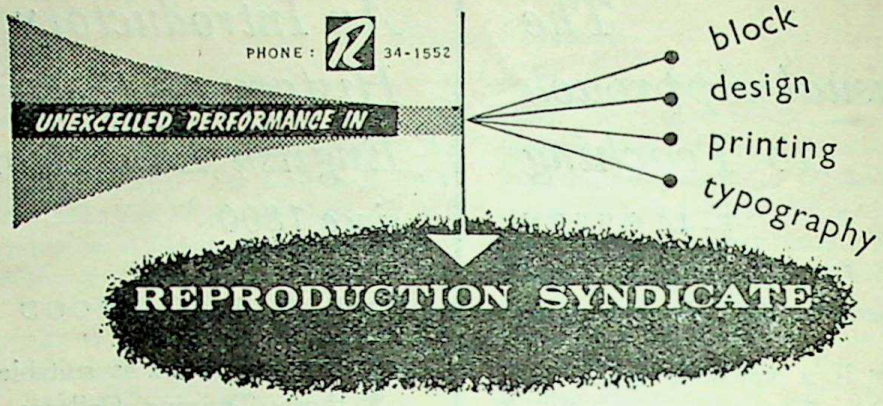
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